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EDITORIALS

Crowder Gives Facts On Draft Rejections

Exponents of the "them-was-the-happy-days" school of thought have been busy for some months, deploring what they said was the physical degeneration of the modern youth as demonstrated by the alleged large percentage of draft rejections because of bodily unfitness.

They have been accustomed to wind up their laments with the declaration that there was nothing of the kind back in the good old days of the Civil War draft.

"We never heard of anybody being turned down for physical reasons then," was the published remark of one of these Jeremiahs not long ago.

Now comes Provost Marshal General Crowder, director of all the draft machinery, and upsets all this reminiscent discussion with the aid of a few cold figures, contained in his report to the Secretary of War.

Of the 2,510,706 men examined on the first call, according to General Crowder, 730,756, or 29.11 per cent, were rejected on physical grounds. In the Civil War, he adds, the draft authorities rejected 31.69 per cent of the men summoned. In view of the advance in standards of medical diagnosis since the Civil War, declares General Crowder, the figures indicate a decided improvement in the physical condition of the young men of the nation.

All of which is most encouraging to public health workers of the country.

It has seemed almost incredible, when one considered the present wide scope of governmental work in the interest of public health, as compared with the almost absolute lack of such activity in the '60's, and when one considered the great advances of recent years in medical science, that the physical condition of the young man of today should not be at least as good as then. With direct evidence lacking, however, the health worker has had to remain silent and wonder whether, if all these years of effort had resulted only in a loss of ground, it would ever be possible for the forces of right living to gain the upper hand.

Now, however, the evidence is at hand, presented by the most unimpeachable authority, and it shows a marked improvement in fifty years in the health of the nation's youth.

This presentation of the situation should spur on to increased effort every person engaged in the work of promoting the nation's health. Not content with the gain which has been made, every one in the health army ought to resolve that the next equal improvement shall be achieved in less than a half century.

And as one surveys the present scope of work, he can hardly doubt that this will be accomplished.

We are building from the ground up in child hygiene, we are educating the people to care for their bodies, we are providing nurses for the indigent and ignorant sick, we are making living conditions sanitary in both city and country, we are steadily lessening the danger of epidemic diseases, we have physicians who prevent as well as cure disease, and just now we are at last awakening to the need and possibility of stamping out the ages-old venereal disease curse.

May the critics of 1970 also be proved wrong when they say the nation's health is poorer than a half century before!

* * *

Tuberculosis Hospitals as a War Measure An important opportunity for getting accurate information as to the prevalence of tuberculosis among a large element of the population, and for following up many individual cases, is presented by the system of co-operation between the tuberculosis division of the State Department of Health and the military medical examiners.

The permanent value of the information, however, is lessened by the fact that in more than half of the state facilities for the care of the tuberculous are lacking.

To take advantage of its present opportunity, therefore, and also to prepare for the abnormal tuberculosis increase which can be expected to follow the return of our soldiers from the front, the State Department of Health is making special efforts to bring before the counties of the state the desirability of immediate action for the establishment of district tuberculosis hospitals.

Any two to ten counties are permitted by law to combine for the erection of a tuberculosis hospital. By this arrangement, efficient care for the tuberculous can be provided in a manner much more economical than if each county had to build and conduct its own hospital.

Every county commissioner owes it to his county to investigate thoroughly the possibilities of the district hospital, if his county is not already a member of an established district. Every commissioner ought

to push along to the best of his ability the campaign for equipment which will make his county an effective fighting unit in the war against tuberculosis — now become a phase of the great war for democracy.

Any information or advice desired by county officials or by individuals interested in laying this matter before their county officials will willingly be furnished, upon application, by the State Department of Health. Outlines of just how to go about founding a hospital and concise statements of the exact tuberculosis situation in every county are available.

* * *

Scarlet Fever Danger to Children From 2 to 10 Emphasis laid in an article in last month's Ohio Public Health Journal upon the dangers of whooping cough and measles to child life should not have the "reverse English" effect of causing the importance of scarlet fever to be underestimated.

As shown by figures which accompanied the article mentioned, scarlet fever, during the five-year period 1911-15, caused fewer deaths than did either of the three other important childhood epidemics. Nevertheless, a death total of 1,666 in five years is by no means a small one.

Furthermore, analysis of the four totals shows that for one period of life scarlet fever stands not fourth but second. From the child's second birthday anniversary to his tenth, scarlet fever is a far more threatening disease than either measles or whooping cough. The death totals of these three diseases and of diphtheria for this period of life are:

Diphtheria	2,811
Scarlet fever	1,073
Measles	618
Whooping cough	475

At ages under two, there is no comparison between the enormous death toll of measles and whooping cough and the small one of scarlet fever. After the tenth birthday, however, scarlet fever continues to be surpassed only by diphtheria, until the twentieth birthday, when measles overtakes it. The figures for this period, while not quite so pertinent to a discussion of childhood diseases as those above, are here given, for the same five-year period:

	10-19 years.	20 years up.
Diphtheria	502	241
Scarlet fever	230	99
Measles	101	171
Whooping cough	8	14

The latter part of winter and the early part of spring bring most of the scarlet fever deaths. The rate falls to its lowest point in late

summer. The present, therefore, is in the midst of the scarlet fever season, and is the time when physicians, health officials and parents should be exceedingly watchful for symptoms.

Protect the babies against whooping cough and measles, and educate their mothers to consider these diseases seriously. But at the same time be sure to protect their slightly older brothers and sisters against the deadly ravages of scarlet fever.

* * *

Embalmers Must Register The attention of local boards of health
Renewals of Licenses and of embalmers is called to the fact
 that embalmers' licenses and renewals of
 such licenses, issued by the state board of embalming examiners, must
 now be registered with the State Department of Health and not with
 local boards.

Section 1343 of the Ohio General Code, as amended in 1917, says, after prescribing the details of the issuance of embalmers' licenses:

The person to whom the license is issued shall register such license with the state board of health either by mail or in person.

The same section, after providing for the renewals of licenses, continues as follows:

Each license renewal card shall be registered in like manner as the license originally issued.

Despite this provision of law, not more than 300 of the 2,700 embalmers in the state have registered the renewal of their licenses for 1918. It seems probable that many of those who are failing to comply with the law are not aware of the change which has been made.

To obtain greater publicity for the new mode of procedure, the State Department of Health requests local boards to inform embalmers who may come to them to register their license renewals, that such registration must be with this Department. It also requests them to urge promptness in registering.

* * *

The "Why" of Smallpox — A typical answer to the question of why
a Graphic Illustration Ohio is now experiencing an unusual
 prevalence of smallpox is found in a recent report of a State Department of Health investigator, submitted after he had visited one of the infected localities. Here are two quotations which tell the story, not only for this particular town but for many others as well:

"The health officer reported that much of the difficulty regarding the quarantine of these cases developed as a result of a difference of

opinion among physicians regarding the diagnosis of these cases. A physician, residing in a nearby village, who had treated several of the milder cases, made a diagnosis of chickenpox, and because he had not recommended quarantine, the cases had been permitted to run at large."

"The first case known to have developed in the village was in the person of the local hardware dealer. * * * An effort on the part of this man to avoid quarantine and publicity regarding the disease is supposed to be responsible for the spread of smallpox in the village."

Wrong diagnosis by physicians, failure of the health officer to cope with the situation, selfishness on the part of infected persons who were unwilling to take necessary measures to protect others—there you have a story which has been repeated with minor variations in many other places.

Physicians must have regard for the safety of the community as well as for the feelings of their patients. Health officers must be active and thorough in their work. Victims must accept the situation gracefully and submit to necessary restraints. Only by these means can Ohio rid herself of smallpox.

* * *

Failure to Vaccinate Another important contributing cause in the spread of smallpox is lack of general protection through vaccination. How serious this lack is in some localities is shown by results of recent examinations of children in country schools of Ross County by Dr. D. E. Robinson and other United States Public Health Service officers who are in charge of sanitation in the Camp Sherman zone.

Of 258 children examined in 13 schools, 238 had never been vaccinated.

Think of the epidemic which would be caused by the accidental introduction into such a group as this of one case of smallpox!

With conditions such as now exist in Ohio, every board of education ought to require vaccination of the pupils under its jurisdiction. The history of epidemic after epidemic shows that vaccination is, either permanently or for a long period of years, a practically perfect safeguard against smallpox.

Where the need for vaccination is disregarded, the health of the child is being neglected.

* * *

An Object Lesson in Public Health Needs Aside from the vaccination figures uncovered in the Ross County examination, the inspection by the federal authorities is demonstrating the great amount of good which could be accomplished by the installation of physical and medical supervision in all the schools of the state.

One result, for example, has been the disclosure of four cases of trachoma. Under ordinary circumstances, these children's condition would have grown steadily worse, with the nature of the disease probably unknown until serious impairment of vision — perhaps blindness — had resulted. The installation of adequate public health machinery may mean the saving of their sight.

What the installation of adequate public health machinery might mean in other rural districts of the state one can only guess.

* * *

New Epidemiologist Takes Up Duties Trained in public health work through long experience as city health officer at Salem, Ohio, Dr. E. J. Schwartz on January 1 assumed the position of director and epidemiologist in the division of communicable diseases of the State Department of Health. The place was made vacant by the departure of Dr. F. G. Boudreau for military service. Dr. Boudreau is on a leave of absence for the term of his army service.

Dr. Schwartz served Salem as health officer for fifteen years and was a practicing physician there for nineteen years.

His coming will measurably increase the efficiency of the department in extending epidemiological aid to local health authorities of the state. This work has for several months rested entirely upon the shoulders of Dr. W. E. Obetz, assistant epidemiologist, and since the development of the smallpox situation the demand for aid had been greater than the department's available supply.

* * *

Sew Another Star On Service Flag An eighth star can be added to the seven which twinkled in the State Department of Health's service flag constellation last month. Russell D. Scott, assistant bacteriologist in the division of laboratories, has been commissioned a first lieutenant in the army sanitary corps and is now in service.

Scott is the fourth man to leave the laboratories for service under Uncle Sam. The laboratories staff before any left numbered nine.

The division of public health education and tuberculosis has made two contributions to the service, and the divisions of sanitary engineering and communicable diseases one each.

The department's complete honor roll now includes:

Major John R. McDowell,
First Lieutenant Frank G. Boudreau,
First Lieutenant J. F. Granger,
First Lieutenant Russell D. Scott,

Second Lieutenant John S. McCune,
 Private J. R. Russell,
 Miss Amy L. Mercer, nurse, Canadian army,
 Leo F. Ey, United States Public Health Service.

* * *

Higher Milk Prices Hurt Babies' Health Recent investigations in Cleveland developed the fact that an increase in the infant death rate paralleled an increase in the price of milk. The explanation was that many mothers cut down their milk purchases when the price went up, with consequent injury to the health of their babies.

The trend of milk prices in Cleveland is probably typical of the trend throughout the state — at least in the larger cities. What the cause of the steady rise may be — whether all or any of the increases are justifiable — these are questions for other authorities than those who are dealing with public health.

What the health authority must consider is the effect of the rise on public health. It is evident that this effect is a damaging one.

The remedy one naturally thinks of, of course, is to force the price back down. This may not, however, in all cases be possible or advisable. In that event, the health worker must seek other remedies.

The only one which presents itself — other than free distribution of milk to those who are absolutely unable to pay the higher price — is the education of mothers in the great danger of lessening their babies' milk consumption.

If milk prices have risen recently in your city, an investigation of its results on milk consumption would be advisable. Mothers who are found to be buying less than before should be warned that no other food can be substituted for milk without injury to the child.

It is imperative to the health of babies and young children that they have plenty of good, pure milk, however great a sacrifice be necessary to provide it.

* * *

Health Officer Ought to Confide in Public It is gratifying to note the increasingly large number of health officers and organizations interested in promoting the public health that are availing themselves of the general willingness of the newspapers to publish news and educational matter pertaining to public health work.

"Health columns," conducted by health officers, are appearing in a number of Ohio papers. Reports of these officers, reports of public health nurses and similar articles are seen frequently. Often where

communicable diseases have approached an epidemic stage, health officers have issued statements, detailing the situation and advising the public of individual responsibilities and duties in checking the disease spread.

Such a situation means that health workers of the state are becoming more generally cognizant every day of the fact that they must take the public into their confidence if they are to achieve the best results. Gum-shoe methods are out of date.

By displaying a willingness to let the public know what he is doing, the health officer gains a powerful ally in the press and enables the people of his district to take an intelligent interest in his work.

If John Smith knows diphtheria is prevalent in town, he is more likely to take his daughter Mary's sore throat seriously than if the facts have been concealed.

The average newspaper is glad to print both news and educational propaganda pertaining to public health if the health officer is willing to come half-way. The general interest of the press of the state in such material has been demonstrated to the State Department of Health by the cordial reception which its own publicity matter regularly gets in the editorial sanctums.

The State Department of Health is planning considerable extensions of its own work in this field, to be carried out soon, and has no doubt of the co-operation of the newspapers.

Local health workers can do much to aid in this work by helping their home-town papers to get an appreciation of the local phases of health work, and, in case there are a few papers which do not see the opportunity for community service presented by the health news field, by pointing out that the readers both need and desire such material.

CHILDREN ARE OUR LAST DEFENSE LINE

Children mean more to America and to the world today than ever before. They are our last line of defense, therefore no sounder patriotic service can be offered than that which will protect the children and safeguard baby life. Here in America, before war is actually upon us, it is nothing more than common sense for each community to study its needs and put into ac-

tion the means of preserving child life and safeguarding the health of the children. England has learned so well the need for protecting her mothers and babies that infant-welfare work has redoubled there since the war began. For the first year of war her infant mortality rate was higher than in previous years, but for 1916 it was the lowest rate on record for that country. — *North Carolina State Board of Health.*

Rabies (Hydrophobia)

By Fred Berry, Bacteriologist, Division of Laboratories, Ohio State Department of Health

THE object in presenting this paper is to give health officials, physicians, and the public some of the more important facts concerning rabies, with the idea of facilitating the care of persons exposed to rabies infection. No attempt has been made to go into detail on any phase of the subject and for those who care to obtain additional information a list of references which were consulted in preparing this paper is appended. The subject will be discussed under the following heads:

- Nature of rabies.
- Cause.
- Animals affected.
- Incubation period.
- Diagnosis —
 - Clinical.
 - Laboratory.
- Shipment of specimens.
- Care of persons bitten.
- Care of animals bitten.
- Prevalence.
- Control and prevention.

NATURE OF RABIES

Rabies is a specific infectious disease common to man and animals. It is characterized by (1) a variable incubation period, (2) a short course with almost certain death after symptoms develop, (3) a peculiar localization of the virus in the central nervous system and (4) definite symptoms which develop as a result of changes in the central nervous system. The disease is essentially the same in all of the many species of animals that are susceptible. Although rabies is usually more prevalent in thickly settled areas, there are very few parts of the globe in which it has not been reported at one time or another. Climate has little effect on rabies and in localities where there are marked seasonal variations it occurs practically as often during the winter as during the summer months.

Rabies is by no means a disease of recent origin. It was described by Aristotle as early as 200 B. C. The first description of rabies in human beings was written by Celsus in the first century A. D. However, no important facts regarding the cause or manner by which rabies is transmitted were brought out until 1804 when it was shown that the saliva of dogs carries the virus. The most important advance in the study of rabies was made by Pasteur. In 1884 he announced that he was able to immunize animals against rabies. The method of preventive

treatment outlined by Pasteur is followed with slight modifications even today and the procedure carried out to protect those who have been exposed by rabid animals is commonly known as the Pasteur treatment.

CAUSE

Rabies Virus. The cause of rabies is known as rabies virus. It is a living organism, too small to be seen with the microscope and it will pass through a very fine filter. Numerous attempts to grow this virus have been almost uniformly negative, so that it is impossible to study it as one can study the cause of most infectious diseases. However, a number of important facts are known concerning rabies virus, and fortunately, the failure to grow the organism has not interfered seriously with the progress toward prevention of the disease in human beings. The virus is more resistant to certain chemical agents than are many disease producing organisms. However, some disinfectants, formalin for example, kill rabies virus quite quickly.

Distribution of the Virus in the Body. (*Nervous System*): Rabies virus with a few exceptions is localized in the central nervous system of animals suffering with the disease. The brain contains a very large amount of the virus, the spinal cord a less amount, and other parts of the nervous system still smaller quantities. (*Glands*): The salivary glands in most species of animals contain a considerable amount of the virus. It is from these glands that the virus enters the saliva. Thus it may be transferred to wounds already present or those inflicted by the rabid animal. (*Milk*): A few instances are recorded where milk from rabid cows has produced rabies in animals fed with it. Numerous other attempts to produce the disease in this manner have failed. The conclusion to be drawn is, that while the danger from milk infection is very slight, it is, however, possible if there are abrasions in the mucosa of the mouth or oesophagus. The gastric juice will kill rabies virus. Pasteurization of milk will certainly destroy the virus. (*Blood*): About the same results have been obtained with blood that were obtained with milk. That is, a few investigators have succeeded in transmitting the disease with blood from rabid animals, but by far the larger number of experiments in this line have been negative. It is possible that some of the positive results may have been due to improper technic. The actual danger from blood is certainly very slight. Nevertheless, precautions should be taken to prevent contamination of wounds with blood from suspected animals. (*Organs of the body*): Although it has been shown experimentally that rabies virus may be found in some of the internal organs this fact is of slight practical significance with regard to the transmission of the disease.

ANIMALS AFFECTED

It is possible under favorable conditions to successfully inoculate practically all warm-blooded animals with rabies virus, but in nature rabies occurs to a large extent in a relatively few species, and these consist of animals which are most likely to become inoculated by the bites of dogs and cats. The figures in accompanying Table I are representa-

tive of the average frequency with which different animals in Ohio become infected with rabies. Of all cases submitted in 1917, 47.1 per cent were shown to be rabies. These figures correspond fairly closely to those given by writers who collected statistics on several thousand cases in France and Austria.

In the western states, rabies has been found in skunks. In California and Montana coyotes have been infected and have spread the disease to a considerable extent. Rats have been infected by feeding them fixed virus, but it is doubtful if these animals ever become infected under natural conditions. One specimen of suspected rabies in a rat was submitted to this laboratory the past year, but no examination could be made on account of the condition of the brain. The physician stated that the animal showed symptoms of rabies. One ferret was submitted for examination with negative results.

TABLE I. RABIES EXAMINATIONS BY OHIO STATE DEPARTMENT OF HEALTH IN 1917, CLASSIFIED AS TO THE KIND OF ANIMAL:

<i>Kind of animal</i>	<i>Total cases examined</i>	<i>Percent of total</i>	<i>Number positive cases</i>	<i>Percent positives</i>
Dogs	204	82.3	103	50.4
Cats	18	7.2	5	27.7
Cattle	16	6.4	5	31.2
Horses	4	1.6	2	50.0
Sheep	3	1.2	2	66.6
Swine	1	.5	0	0.0
Rat	1	.5	0	0.0
Ferret	1	.5	0	0.0
Total	248		117	

INCUBATION PERIOD

The incubation period is the time necessary for symptoms to develop after infection with rabies virus. As already stated, the variability of this period is considered one of the characteristics of rabies. Since the virus must travel along the nerves to the brain and spinal cord, it can be readily seen that the incubation period in any given case will depend altogether on the location of the wound and the amount of virus introduced. This latter factor is largely determined by the number and severity of the wounds. Knowing all the facts in a case, one cannot say definitely what the incubation period will be, but an approximate idea can be had from the following figures which are averages for a considerable number of cases:

In Man

(Figures by Bauer, 537 cases, quoted by Stimson):

	<i>Per cent.</i>
1 to 19 days.....	8.24
20 to 39 days.....	28.43
40 to 59 days.....	21.18
60 to 79 days.....	15.30
80 to 99 days.....	9.22

	<i>Per cent.</i>
100 to 149 days.....	7.65
150 to 199 days.....	5.69
200 to 249 days.....	.98
250 to 330 days.....	2.35
1 to 1¼ years.....	1.18

In Animals

(Nocard and Leclainche give the following figures):

Dog and cat, 15 to 60 days average. Shortest, 8 days; longest, 1 year.
 Horses, 15 to 60 days average. Cases as high as 10, 14, and 20 months. Four-fifths of cases under 60 days.
 Cows, 1 to 3 months average. Cases as high as 20 and 23 months.
 Sheep and goats, 15 to 30 days average.
 Swine, 15 to 30 days average. Extremes, 6 days (?); 6 months.

The age of a person or animal appears to have a distinct influence on the incubation period. It is shown by statistics that this period is

TABLE II. RABIES EXAMINATIONS BY OHIO STATE DEPARTMENT OF HEALTH, CLASSIFIED BY YEARS, 1907-17:

Year	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
Total cases examined	35	45	143	136	121	181	190	196	218	247	248
Number cases positive .....	.....	32	82	89	78	86	101	113	129	129	117

shorter in young persons and young animals. This point is also apparent in artificially inoculated laboratory animals.

The incubation period is shortest in persons bitten in the face. The shortest periods that have come to the writer's notice in this state are two cases, one in Akron and one in Middletown, with incubation periods of 10 and 16 days respectively, following bites around the eye.

DIAGNOSIS

Clinical. The clinical diagnosis of rabies, while at times somewhat difficult, is, nevertheless, fairly easy in the majority of cases, provided, of course, the disease has progressed sufficiently for definite symptoms to appear. For this reason it is advisable, whenever possible, to capture and confine a suspected animal, so that he may be observed. Animals afflicted with rabies live but a few days. If a suspected animal is alive and well two weeks after biting a person it is safe to release the animal and have no fear that it had rabies. A competent veterinarian should be called to make a diagnosis on suspected animals. However, some of the most characteristic clinical signs of rabies may be pointed out here so that an untrained person may recognize suspicious cases. The disease takes two forms in dogs and the symptoms have been well summarized by one observer as follows:

(A.) Furious rabies.

1. A change in the dog's disposition — either more affectionate or more sullen than normal.
2. Restlessness, passing into a tendency to wander from home.
3. Tendency to bite or snap anything which moves, often developing into a maniacal fury.
4. Refuses food and usually drink; but may eat indigestible objects like stones, leather, his own feces, or lick up his own urine.
5. Change of voice so that it becomes hoarse — half-bark, half-howl, like a "tired hound's when treeing game."
6. Paralysis, usually beginning in hind legs, gradually becoming total, and ending in dyspnoea and death.
7. He does not froth at the mouth, seldom has marked fits and does not throw an obliging fit for diagnosis when he sees water or when it is thrown on him.

(B.) Dumb rabies.

Symptoms 1, 2, 4, 5, 6, 7, are common to both types, but dogs with dumb rabies seldom attempt to bite, or become violent. The lower jaw is paralyzed and drops (hence the name drop jaw). The animal acts as though it had a foreign body in its throat, and persons are sometimes inoculated in attempting to remove the imaginary bone. In the early stage of both types the dog often persistently attempts to lick its owner's face and hands and as the saliva may be infectious five to nine days before morbid symptoms develop, people occasionally contract the disease in this way.

Laboratory Diagnosis. The laboratory examination is made with the brain. Material is taken from Ammon's horn, the cerebral cortex and the cerebellum for examination. This material is spread in thin films on glass slides. These films are fixed and stained and a search is made for definite bodies known as Negri bodies. In this laboratory the method of Williams is used for staining. If Negri bodies are found a positive report is made at once. However, if these bodies are not found a report to this effect is made and some of the material is inoculated into a guinea pig or rabbit. These animals are then kept under observation for a period of six months, unless they develop rabies in the meantime. If the material injected into these animals contained rabies virus they usually develop the disease in about three or four weeks.

Negri bodies (named after the discoverer, Negri) are definite structures which are found only in rabies. Their exact nature is not absolutely known, but most observers adhere to the belief of Williams and Negri whose studies in this line led to the conclusion that the bodies are probably protozoa and the cause of rabies. These bodies are found principally in the brain. They increase in number and size as rabies develops in an animal. In the early stages of the disease they may be too small or too few in number to be found under the microscope. For this reason the failure to find Negri bodies in suspected brains is not conclusive evidence that the suspected animal did not have rabies. These negative findings should be correlated with all available clinical history in diagnosing a case, and deciding whether any persons exposed should receive anti-rabic treatment.

The presence of Negri bodies is conclusive evidence that a suspected animal was rabid.

The laboratory diagnosis, in positive cases, requires but a short time and a report on this is forwarded by telegraph or telephone very soon after the specimen is received. Negative cases require more time, but a report is made as promptly as possible.

DIRECTIONS FOR SHIPPING SPECIMENS

Inasmuch as the brain is used for laboratory diagnosis, it is very important that this material be received at the laboratory in good condition. The head of a suspected animal should be removed after death and packed in a small bucket which in turn should be placed in a larger bucket which can be filled with ice. Specimens packed in this manner will keep in good condition, even during several days in transit. Specimens should not be expressed so that they will reach the laboratory on Saturday, Sunday or a holiday, but instead should be kept on ice and shipped later. Where there is any doubt that the package will not get prompt delivery it should be brought to the laboratory by a messenger. Transportation difficulties at present make this procedure advisable in serious cases. Information concerning the specimen, date of shipment, etc., should be sent to the laboratory at the earliest possible date by special delivery letter, telephone or telegraph.

CARE OF PERSONS BITTEN

Local. When a person has been bitten by a rabid animal or otherwise exposed to rabies virus, he should at once consult a physician. The wounds should be thoroughly cauterized, preferably with fuming nitric acid or formalin. Carbolic acid is practically valueless and tincture of iodine is of comparatively little value.

Pasteur (antirabic) Treatment. The Pasteur treatment consists of the injection of modified rabies virus in order to establish immunity in the patient before the virus injected by the rabid animal can reach the vital nerve centers. This treatment is preventive and not in any sense curative. There is no known cure for rabies, once the disease has developed. There are a few deaths in Ohio from rabies each year. The question, "Who should receive the antirabic treatment?" is difficult to answer at times but it has been well summarized by the Minnesota State Health Department as follows:

1. All persons bitten or scratched, either by the teeth or claws of a rabid dog or other rabid animal, should receive the Pasteur preventive treatment for rabies
2. All persons having wounds upon the hands, face or elsewhere upon the body that have come in contact with a rabid animal in such a manner that the saliva of the animal has gained entrance into these wounds, should likewise receive the preventive treatment.
3. All persons bitten by or otherwise exposed to infection from an animal within a period of two weeks preceding the development of symptoms of rabies in the animal should receive treatment. Four to six days is usually reported as the limit of time preceding the onset of symptoms of rabies, in which rabies virus has been shown experimentally in the saliva of a dog. The above time limit of two weeks has been fixed upon by this department as a proper one to guard against all possibility of danger. Persons bitten, etc., earlier than two weeks before the exhibition of symptoms of rabies in the animal are in no danger of the development of rabies. In other words, if the offending dog is living and well at the end of two weeks from the date of biting, it is certain that the animal did not have rabies at the time of biting and could not have had rabies virus in his saliva.
5. All persons exposed to possible infection from a known rabid animal, and all persons exposed to possible infection in a suspected rabid animal or in an animal in which it is impossible to exclude rabies at once should receive treatment.

Antirabic treatment is not supplied or administered by the Ohio State Department of Health. It can be obtained by the attending physician either from physicians who are equipped to prepare this material or from commercial firms who supply it. If desired the physician can administer the treatment at home. This saves expense and inconvenience to the patient. The county commissioners are authorized to reimburse individuals for expenses incurred in the treatment. The state has nothing to do with this. Treatment should never be delayed pending the decision of the county commissioners regarding payment but whenever convenient it is well to advise them that treatment is being administered so that there may be no misunderstanding about expense accounts to be submitted after the treatment is completed.

CARE OF ANIMALS BITTEN

The care of animals exposed to rabies infection is a matter that comes under the jurisdiction of the veterinary department of the State Board of Agriculture. It is advisable to call a competent veterinarian for advice regarding animals that have been bitten and he in turn should take up the question with the state veterinarian.

On account of the danger to the public from rabid dogs the health officer should provide for the control of these animals. When it is definitely known that a dog has been bitten by a rabid animal, the health officer should give the owner of such animal the option of killing it or keeping it confined on his own premises for a period of at least three months. If the dog leaves the premises of the owner it must be properly muzzled, otherwise the health officer will order such animal killed. When a dog suspected of having rabies has been astray in a community the Board of Health should adopt measures to require the muzzling of all dogs for a period sufficient to cover the incubation of any cases that may develop as a result of exposure to such animals.

PREVALENCE OF RABIES

The increase in rabies cases in Ohio as indicated by the examinations made in the laboratory of the State Department of Health is shown in the figures in Table II herewith.

Statistics collected in Ohio in 1912 (Phillips) show that the amount paid out for the treatment of persons exposed to rabies infection was over \$30,000, while the loss in live stock for the same year was estimated at about \$35,000. These figures have no doubt increased in the years since this data was collected.

The spread of the disease in the United States is shown by figures collected by Kerr and Stimson to have extended at one time or another to every state and territory in the Union. At the time of their inquiry (1908) there were only 10 states or territories free from the disease. Some of these states have reported cases in large numbers since that date.

One must bear in mind of course that statistics of this character do not represent actual increase in cases because facilities for diagnosing and recognizing rabies have in recent years brought cases to the attention of officials while in earlier years many cases undoubtedly went unrecognized.

CONTROL AND PREVENTION

Rabies is a disease which is easily controlled and prevented. The experience of England, where, through proper muzzling of all dogs, rabies has been practically exterminated, is sufficient evidence of the efficacy of this measure alone. In Australia, where regulations prevent the importation of dogs, except after a proper period of quarantine, rabies has never been reported. There have been no definite preventive measures adopted in Ohio and until some measures are taken rabies may be expected to increase. It is possible in any community to practically exterminate rabies by muzzling, although of course co-operation of adjacent communities would be absolutely essential — otherwise there would probably be reinfection due to imported cases.

References

- (1) Stimson, *Facts and Problems of Rabies*, Hygienic Laboratory Bulletin No. 65, 1910.
- (2) Williams, "Rabies," *Reference Handbook of the Medical Sciences* (3d ed., 1917), pp. 443-47.
- (3) Williams and Lowden, "The Etiology and Diagnosis of Rabies," *Jour. Inf. Diseases*, 1906, 3, p. 452.
- (4) Minnesota State Board of Health, Report of Laboratory Division, 1911-12.
- (5) Phillips, "Rabies and Its Prevention," *Monthly Bulletin*, Ohio State Board of Health, II (1912), 131.

Health Indications in Data on Draft Rejections

INTERESTING indications as to the health conditions of the country's male population between the ages of 21 and 31 have been given by the publication of detailed figures on the physical examinations of men called in the first draft. In general the statistics indicate that health conditions are better today than at the time of the Civil War, that they are better in the plains and mountain states than elsewhere and are worst in the North Atlantic and New England states, that there is little difference between city and country health (what margin there is being in favor of the rural sections), and that eye defects are more common than any others.

Of the men called for exami-

nation throughout the country 70.89 were found physically acceptable and 29.11 were rejected. The total figures are: Called 2,510,706, accepted 1,779,950, rejected 730,756. Draft rejections in Civil War days amounted to 31.69 percent, according to Provost Marshal General Crowder, who points out that the higher standards of medical diagnosis today make this difference even greater than it appears.

West Rejects Few

A striking feature of the draft results is that the Mississippi River forms an almost absolute boundary between two health zones of the country. East of the Mississippi only one state — Alabama

— out of 26 passed as many as 75 percent of the men called. West of the Mississippi 13 out of 22 states achieved this record, and one of them—South Dakota—stood alone among all the 48 states in passing more than 80 percent. Only two states west of the river—Nevada and Louisiana—fell below 70 percent; in the East 12 states were under 70 percent, seven of them being under 65 percent and four of them being under 60 percent.

As applied to individual states, these figures cannot be taken as an infallible index to conditions, since those same differences in standards of medical diagnosis, which General Crowder pointed to as between Civil War times and the present, may exist also as between different states today. However, in the broad comparison between East and West, exceptions to the general indications are so rare as seemingly to preclude the possibility of this explanation.

Others Discharged Later

It must also be remembered in weighing the figures that these statistics do not take into account discharges of men whose defects were found after they had entered the service and gone to camps. This process of further sifting is still in progress and no figures are available.

Grouped by the percentages of men accepted to men called, and by sections as well, the states stand as follows:

Less Than 60 Percent

East of the Mississippi: Maine, Vermont, Connecticut, Pennsylvania.

West of the Mississippi: None.

60 to 65 Percent

East: New Hampshire, Massachusetts, West Virginia.

West: None.

65 to 70 Percent

East: Rhode Island, New York, New Jersey, Delaware, Kentucky.

West: Louisiana, Nevada.

70 to 75 Percent

East: Ohio, Michigan, Indiana, Illinois, Wisconsin, Tennessee, Mississippi, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida.

West: Missouri, Arkansas, Colorado, New Mexico, Washington, Oregon, California.

75 to 80 Percent

East: Alabama.

West: Minnesota, Iowa, North Dakota, Nebraska, Kansas, Oklahoma, Texas, Montana, Wyoming, Idaho, Utah, Arizona.

More than 80 Percent

East: None.

West: South Dakota.

Deductions as to the comparative healthfulness of city and country were based upon a special study of typical sections in both groups. Of the men covered by this investigation, 72.04 percent of the rural residents were accepted and 27.96 percent rejected; 71.53 percent of the city men accepted and 28.47 percent rejected.

Causes of Rejection

To obtain data as to causes of rejections, approximately 10,000 typical cases from eight camp areas were studied. In this group the 10 principal causes of rejection, with figures for each, were:

		Percent of all Number rejections
1.	Eye	2,224 21.68
2.	Teeth	871 8.50
3.	Hernia	766 7.47
4.	Ear	609 5.94
5.	Heart disease ...	602 5.87
6.	Tuberculosis	551 5.37
7.	Mental deficiency.	465 4.53
8.	Venereal diseases.	438 4.27
9.	Physical underdevelopment	416 4.06
10.	Flat foot	375 3.65

Scorecard System in Public Health Work

By James A. Tobey, Scientific Assistant, U. S. Public Health Service

THE scorecard system in public health work has now been in use for a number of years and is increasing in scope and influence. A scorecard for dairies was first used in Washington, D. C., by Health Officer Woodward and soon produced excellent results. In fact, scorecards have proved useful and beneficial wherever they have been skillfully devised and intelligently applied. They help to systematize the keeping of records as they can be filed for reference and they serve as a ready comparison of conditions which can be easily presented to the public.

The advantages of the system are many. It assists the inspector by putting before him in black and white the items he should look for, so that he overlooks none and soon learns to evaluate the various factors of sanitary importance. It serves to instruct the person scored by attracting his attention to those points in which he is deficient. This is best done by marking in red ink all scores which are below the allowable limit, while those which come up to standard are marked in black. Thus, at a glance he sees where his faults are and his interest is aroused. If a card is marked only in black, too often it is placed aside for future perusal and then forgotten.

Stimulates Competition

The system creates rivalry and stimulates competition. No man

wants to be at the bottom of the list, especially if it is to be published. Publicity is one of the most inspirational factors in health work. Even the announcement that scores are to be published in newspapers or bulletins causes a sudden increase in interest and a decided improvement among those scored. To be fair, however, only an average of a number of inspections should be published, as this procedure gives a man a chance to improve. Copies of the score should always be sent to those who have been inspected.

The one objection which might be offered against the system is that a score is general and not specific. It is a form of standardization but sometimes two equally good places, as measured by results like milk analysis with respect to dairy scores, may be given very dissimilar scores. A trained inspector, however, who has good judgment and common sense will usually get fair comparisons. Obviously, to prevent differences in opinion due to the personal element, one man should wherever possible do all the scoring for a set of inspections.

Scorecard Essentials

The scorecard itself should be so framed that it covers the important items of the sanitary code which applies to that which is to be scored. Incidentally, the code itself should be accurate and up to date. The card should likewise

be clear and so drawn up that the more important factors are emphasized. Simplicity and concentration are important, but above all accuracy should be sought. A scorecard which gives a dairy ten points for odors in the barn and only one for small top pails is from the sanitary standpoint worse than useless.

The card should generally be

arranged in two parts, no matter what it is scoring, for these two main headings apply to anything worth scoring. They are "Equipment" and "Methods". In some cases more divisions are used or indicate less directly these two points. Herewith are reproduced four original scorecards which are now in use and have proved satisfactory.

DAIRY SCORECARD

Name..... Number cows.....
Address..... Quarts of milk daily.....

EQUIPMENT (25)

		Possible	Score Allowed
I. <i>Stables</i> (15)			
a)	Well lighted, 400 cu. ft. air per cow.....	3	.....
b)	Floors, walls, ceilings, windows, clean, no dust, barn whitewashed	6	.....
c)	Tight floor and gutter.....	3	.....
d)	No contaminating surroundings.....	3	.....
II. <i>Milk House</i> (10)			
a)	Concrete floor, light and well ventilated, screens....	3	.....
b)	Floors, walls, ceilings, windows clean.....	5	.....
c)	No contaminating surroundings.....	2	.....
		25	

METHODS (75)

III. <i>Utensils</i> (16)			
a)	Sterilized in steam, 5; scalded, 3.....	5	.....
b)	Protected from contamination.....	3	.....
c)	Small top pail with strainer.....	5	.....
d)	Cans clean	3	.....
IV. <i>Cows</i> (17)			
a)	Tuberculin tested	5	.....
b)	Clean, free from dirt, dust, and manure.....	5	.....
c)	Udders washed before milking.....	5	.....
d)	Disposal of manure (at least 50 ft. from barn)....	2	.....
V. <i>Employees</i> (23)			
a)	Free from disease, vaccinated for typhoid.....	8	.....
b)	Clean in person, clean milking suits.....	5	.....
c)	Wash hands before milking.....	5	.....
d)	Milk dry handed.....	5	.....
VI. <i>Milk</i> (19)			
a)	Not poured in cow stable.....	4	.....
b)	Removed and cooled at once.....	5	.....
c)	Cooled immediately below 60° F.....	5	.....
d)	Kept cool in transportation.....	5	.....
		75	

Final score.....%

Date.....

Inspector

RESTAURANT SCORECARD

The....., Located at No.....St.
 Operated by..... Owner of building.....

FOOD:		Possible		Score	
				Allowed	
Source and condition at time of inspection.	Water and ice.....	5		.....
Possible Score	Milk and milk products....	10		.....
25	Meats	8		.....
Allowed	Other supplies	2		.....
.....					
PROTECTION OF FOOD:		Possible		Score	
				Allowed	
From flies and insects....	From rats, mice, etc.....	5		.....
Possible Score	From dust, dirt, etc.....	5		.....
20					
Allowed					
.....					
CLEANLINESS:					
Dining room, tables, tableware, etc.	Kitchen, sinks, etc.....	5		.....
Plant, employees and methods.	Storage rooms.....	2		.....
Possible Score	Toilet and washing facilities for employees.....	2		.....
30	Cooking	3		.....
Allowed	Serving	2		.....
.....	Dishwashing	4		.....
HEALTH OF EMPLOYEES:					
Employees certified as free from disease by examiner for Board of Health	Employees not examined by Board of Health.....	.....		.....
Possible Score					
15					
Allowed					
.....					
GARBAGE DISPOSAL:					
Storage, protection from flies and vermin.....	Collection or disposal.....	.....		.....
Possible Score					
10					
Allowed					
.....					
Possible total score..... Total score allowed.....					
Inspected and scored (date).....				by	
				Inspector	

Scoring the Dairy

The first of these is for dairies and was devised by the author. It differs from that of the U. S. Bureau of Animal Industry in that equipment is given 25 instead of 40 and methods 75 instead of 60, and the number of items is also reduced and condensed. The experiments of Dr. C. E. North of New York City have proved con-

clusively that clean pure milk can be produced in an old wooden shack by means of proper sanitary methods, while dirty milk can come from a palatial, expensive stable. This has also been the experience of the writer, who has seen milk which gave a count of millions of bacteria per cubic centimeter come from a dairy that was in the certified class, while a

small dealer with a tumble-down barn consistently produced milk with about three or four thousand bacteria per cubic centimeter.

Dr. North's experiments have led him to recommend a dairy score in which equipment is given only ten and methods ninety, but while concurring in his conclusions, the writer believes that the change is too radical for the present. The ideas of farmers and the vast quantity of small producers must be somewhat more gradually changed. If we wipe out our previous teachings with one fell swoop, as it were, the farmer will distrust what we give him now and say that we were wrong before and probably are now. There is also

some psychological effect in good equipment, for a clean white-washed barn induces a man to attempt to practice cleanliness.

The Other Cards

The second scorecard shown was devised for restaurants. It emphasizes the health of smployees, an item which should be backed up by requiring a medical certificate from every food handler. Protection of food, source and condition of same and garbage disposal are also given prominence. The third card is for barber shops devised when the author was health officer of West Orange, N. J. In these shops the relation of barber and customer is one of personal contact

BARBER SHOP SCORECARD

Name..... Date
Address

EQUIPMENT (35)

	Possible	Score Allowed
1. Well lighted (natural).....	4	.....
2. Well lighted (artificial).....	3	.....
3. Running water, hot and cold (allow 8 for heater).....	10	.....
4. Basin for washing hands.....	8	.....
5. Unconnected by door or hall with room used for other business	4	.....
6. Sanitary toilet (proper plumbing).....	3	.....
7. Screens, free from flies.....	3	.....

METHODS (65)

8. Mugs, shaving brushes, razors, clippers, etc.....	15	.....
9. Individual equipment for persons with skin diseases...	5	.....
10. Hands washed before attending each customer.....	10	.....
11. Clean towel used for each customer.....	8	.....
12. No stick alum used.....	8	.....
13. Employees clean, free from disease.....	10	.....
14. Floors, walls, furniture clean.....	5	.....
15. Disposal of refuse.....	4	.....

100

Deduct for spitting on floor or other unclean action... ..
Remarks:

Equipment..... Methods..... Total Score.....
Inspector.....

BAKERY SCORECARD

Name..... Date

Address

EQUIPMENT (34).

	Possible	Score Allowed
1. Above ground	8	.....
2. Well lighted and ventilated.....	8	.....
3. Unconnected with room used for other business.....	4	.....
4. Screens, free from flies.....	5	.....
5. Water tight floor.....	4	.....
6. Water closet not opening into room where food is handled	5	.....

METHODS (66).

7. Floors, walls, ceilings, windows clean.....	10	.....
8. Utensils, mixers, dough troughs, racks clean.....	10	.....
9. Protection of raw materials.....	3	.....
10. Mechanical mixer	4	.....
11. Basin for washing hands, towels, sanitary plumbing...	6	.....
12. Employees free from disease, clean in person, wear clean uniforms	10	.....
13. Handling of product during manufacture.....	5	.....
14. Handling of final product.....	7	.....
15. Bread wrapped in bakery.....	6	.....
16. Delivered in sanitary condition.....	5	.....

100

Remarks:**Inspector**

and the opportunity for infection is great. They deserve more attention than is generally paid to them. The fourth card is for bakeries and is modified after that used in Montclair, N. J. Other uses of scorecards are in inspecting groceries and markets, ice cream factories and laundries.

CHILLICOTHE INSTALLS MORE RIGID CODE OF SANITARY REGULATIONS

Additions to Chillicothe's sanitary code, growing out of the campaign of sanitation which has been waged by representatives of the United States Public Health Service in the Camp Sherman zone, have been approved by the board of health in that city.

By the new regulations, restaurants and their employees are compelled to submit to inspections whenever the health authorities desire, and employees of restaurants must submit to vaccination in case it is deemed necessary. A fee of \$1 will be charged for restaurant permits. Such inspections have been going on for some time as a measure of protection for the soldiers' health.

Inspection of private as well as public wells is provided for, and any found unsanitary may be condemned. Manure bins must be elevated one foot, and must be emptied twice weekly from March to November and once weekly from November to March. Privies must be screened.

Looking After Ohio Soldiers Discharged for Tuberculosis

A SYSTEM of following up cases of tuberculosis in men discharged because of the disease from the military service, made possible by the co-operation of the military authorities in giving notifications of such discharges, was installed just before the beginning of the year by the Division of Public Health Education and Tuberculosis of the State Department of Health.

Notifications of tuberculosis discharges from Camp Sherman, Chillicothe, are received direct from the disability board at the camp. Reports from other camps and posts reach the department through the National Association for the Prevention of Tuberculosis, which receives and classifies the army reports.

Follow-Up Methods

If a reported case is within the jurisdiction of a public health nursing center, a notice, with an investigation blank for each case in the district, is sent to the public health nurse or superior officer. If the case cannot be reached by a public health nurse, a letter is sent from the department direct to the discharged man, offering advice and assistance.

It is hoped that the direct letter will elicit a reply from the subject and place the department in position to give such general advice as may be possible and to recommend consultation with a physician of known worth in tuberculosis cases.

It is also desired that physicians,

in case the discharged man is in poor circumstances, will agree to render free service. In some cases where it may appear advisable, representatives of the department's nursing service will probably visit the subjects.

Investigation By Nurses

Where cases are referred to public health nurses, it is presumed that their investigations and visits will obviate any further direct action in the case on the part of the department until the subject becomes a patient in an institution for the public care of tuberculosis.

The investigation blank used in connection with this new branch of the department's work is the regular form used by the bureau of admissions and discharges, with the addition of questions bearing upon the industrial occupations of the subject, practically identical with the questions to be found on the certificate of industrial disease used by the department's Division of Industrial Hygiene.

Replies Come In

Several replies were received shortly after the first letters to discharged men were sent out. It is believed that the department's offers of assistance will in general meet with a cordial reception.

Information regarding draft rejections on ground of tuberculosis infection was not at first available, an early order of Provost Marshal General Crowder making it available having been revoked. More

recently, however, authority to inspect the draft records has been granted the United States Public Health Service and by it delegated to the Commissioner of Health. No detailed plan of collecting this information has yet been worked out.

Camp Sherman Discharges 27

In December Camp Sherman medical authorities recommended discharge of 27 Ohio men because of tuberculosis. Twenty-three of these cases were referred by the Department of Health to public health nurses and letters were sent to the other four men. Notifications from all sources in December gave information of 88 cases, of which 67 were referred to public health nurses and 21 were the subject of direct letters.

The letters sent to men whose cases cannot be handled by public health nurses read as follows:

Department's Services Offered

"In co-operation with the military authorities, this department is anxious to be of service to the men who have been discharged from the army because of lung trouble. To the man with a touch of lung trouble, nothing is as important as getting proper treatment immediately. If taken in time, a large proportion of these cases can get absolutely well, while, if neglected, many will go down hill rapidly, and in a relatively short time be beyond the chance of final cure.

"We are writing you, therefore, in the hope that we may be of service to you in advising you as to what you should do to restore yourself to full health and strength.

"If it is possible, a man who has this trouble should give up his business and give all his attention

to getting well. Where this is not possible, he should know how to regulate his life, his work and his habits, and where to get such medical advice as will give him the best chance to get well, even if he has to continue at his usual work.

"If you will write us, telling us what your circumstances are, we will put you in touch with a good doctor, and give you every assistance in our power in getting you started on the road to health. There is no charge for anything we may be able to do for you, as the state of Ohio has established this department and pays all the expense of running it, so that we may help to promote the health of every citizen of the state.

"Anything you may write us will be considered as confidential, and you need have no hesitancy in telling us just how you are situated, and just what you need in way of advice and assistance."

CENSUS BUREAU ISSUES WEEKLY DEATH FIGURES

As a health index, the Bureau of the Census is publishing each week mortality reports from 44 of the largest cities in the United States.

There are given for each city the total number of deaths reported (stillbirths excluded), the death rate, the number of deaths under one year of age, and the proportion of infant deaths to total deaths. Where the data are obtainable for the previous five years, averages for the corresponding weeks are given for each city.

These totals, rates, and percentages permit valuable comparisons and serve as a ready health index for health officers and others.

All States Asked to Work Together to Control Venereal Diseases

SURGEON General Rupert Blue of the United States Public Health Service in January called upon health officials of all the states for co-operation in controlling venereal infections. Such control in connection with the prosecution of the war, he declared, "constitutes the most important sanitary problem now confronting the public health authorities of the United States."

He recommended that venereal infections should be made reportable and quarantinable, that means of diagnosis and cure should be

provided and that a campaign of wisely conducted publicity should be launched.

What Ohio Is Doing

State and city health officials of Ohio have already undertaken measures for the suppression of venereal diseases, in accordance with plans agreed upon at a conference in November, as outlined in the November issue of the OHIO PUBLIC HEALTH JOURNAL. The program adopted at this conference declared the present statutes of Ohio inadequate for the

Memorandum Relative to the Control of the Venereal Diseases

1. Epidemiology.
 - (a) Peculiar to the human species.
 - (b) Chronic diseases.
 - (c) Spread by contact—not necessarily sex contact—chronic carriers.
 - (d) Very prevalent in all classes of society.
 - (e) Most prevalent in classes of low inhibition.
2. Control.
 - (a) Depends upon the control of infected persons.
 - (b) Control of infected persons depends upon knowledge of their whereabouts.

This may be determined by:

 - (1) Morbidity reports by serial number (in the case of private practitioners), name to be disclosed when infectious persons cease treatment. Case then followed up by health department which enforces quarantine act.
 - (2) Morbidity reports from venereal clinic and hospital.
 - (3) Legal enactment necessary to secure morbidity reports.
 - (4) Enact and enforce ordinance requiring pharmacists to keep record (open at all times to health department) of sales of drugs for the prevention and treatment of gonorrhea and syphilis.
 - (c) Object of this control is to prevent contact between infected and non-infected persons.
 - (d) May be obtained by:
 - (1) Quarantine of infected persons.
 - (2) Cure of infected persons.
 - (3) Education of general public to avoid direct and indirect contact with persons infected or presumably infected.
3. Quarantine of infected persons.
 - (a) Those who desire cure and can afford treatment.

- (1) These are instructed by their physicians and theoretically are thus quarantined.
 - (b) Those who desire cure and can not afford treatment.
 - (1) Means should be provided for the free treatment of this group.
 - (a) Accurate diagnosis.
 - (b) Dispensary relief.
 - (c) Hospital relief.
 - (c) Those who are careless or willful in the distribution of these infections through promiscuity.
 - (1) These for the most part are the ignorant or the criminal classes. Careful physical examination of all persons entering jails or other public institutions, those found infected to be isolated either in a special hospital or under a probation officer who enforces dispensary relief.
4. Cure of infected persons.
- (a) Establishment of venereal clinics by health authorities.
 - (1) Federal, in zones in close contiguity to cantonments.
 - (2) State, in situations where local authorities refuse or fail to establish clinic.
 - (3) City, particularly those cities in which commercialized or clandestine prostitution flourishes for the patronage of soldiers but are beyond the authority of the Secretary of War.
 - (4) Country, in thickly settled rural communities.
 - (b) By the creation of new or the utilization of existing hospital facilities.
 - (1) For the treatment of those who volunteer for treatment.
 - (2) For the obligatory treatment of persons under control of the courts.
 - (c) By legal enactment.
 - (1) Declaring the venereal infections to be quarantinable.
 - (2) By substituting confinement to hospital for confinement to jail in the case of those convicted by courts and having venereal infections.
 - (3) By substituting remanding to a probation officer for the imposition of fines.
 - (4) To carry out 2 and 3 it is necessary that all persons arrested be examined by the city physician or other authorized person.
 - (5) By arrest of acknowledged and clandestine prostitutes by police-women.
5. Public education.
- (a) Relieve problem of all moral and social issues and place campaign solely on basis of control of communicable disease.
 - (b) Propaganda of wisely conducted publicity.
 - (1) Through public meetings addressed by forceful speakers.
 - (2) Through public prints.
 - (3) By placarding public toilets, placards to emphasize danger of venereal diseases and to recommend prompt treatment either by competent physician or at the free venereal clinic.
 - (4) By follow-up work by social workers.
 - (5) By the education of infected persons.
 - (a) By physicians in private practice.
 - (b) By venereal clinic and hospital.

control of venereal diseases, provided for co-operation between state and city health officials and between these groups and the federal authorities, arranged for the installation in the state laborator-

ies of facilities for Wasserman examinations and for free distribution of Salvarsan by the state if necessary appropriations could be obtained, and agreed that the state request municipalities to provide

sufficient funds for their local health departments' share of the campaign.

Civil Authorities' Responsibility

"It is evident," said Surgeon General Blue in his recent letter to state health officials, "that the prevention of venereal infections in the military population is largely dependent upon the degree with which these infections are prevented in the civil community. This imposes upon the civil health authorities the duty of forcefully attacking the venereal problem upon the basis of the control of communicable disease.

"There is forwarded you herewith an outline upon which it is proposed to make this attack. Manifestly, no plan which can be set forth at the present time can be complete in all its details nor can a plan be devised which in all its phases fits the requirements of each state exactly. Therefore, in the plan which I am sending you only the basic necessities have been stressed. Your co-operation in putting this plan in force is requested.

Importance of Education

"The Public Health Service in co-operation with the Red Cross and the Medical Department of the Army is establishing venereal clinics in cities in immediate contiguity to the Army cantonments. There is even greater need for the beginning of an active antivenereal campaign in those cities which are outside of the military zones but into which soldiers go in search of recreation. Most important of all, perhaps, is the thorough education of the general public to the end that this disease group will be considered in the same light as are the

other communicable infections. This will permit the free and frank discussion of this important question without offense to modesty.

"I shall be pleased to have your views and suggestions as to the prosecution of further work along these lines. Whatever is to be done must be initiated promptly if we are to prevent the next increment of the draft from having the high venereal rate of the last."

The accompanying "Memorandum Relative to the Control of the Venereal Diseases" — the outline referred to in the letter — was enclosed with the letter.

ARMY SEEKING NURSES TO INCREASE CORPS BY A THOUSAND PERCENT

The Army Nurse Corps needs 37,500 nurses in addition to its present strength of 3,800 to enable it to meet the needs of an army of 1,500,000 men. A call for this number, which means a 1,000 percent increase in the next year, was issued just before New Year's Day.

The supply of nurses at the National Guard and National Army camps in the United States at that time was 371 short of the number necessary to provide the minimum necessary quota of 65 nurses per camp. The need will be much greater when the troops get into action in France.

The nursing committee of the General Medical Board of the Council of National Defense estimates that there are from 80,000 to 90,000 registered nurses and 200,000 other graduate and practical nurses in the United States.

Bad teeth bring bad health.

Relative Values of Public Health Procedures*

By Charles V. Chaplin, M. D., Supt. of Health, Providence, R. I.

The following table of values is intended to indicate roughly the health conserving value of certain common functions of municipal health departments. The necessity of perspective in planning health work is evident—however, the apportionment must vary according to location, stage of sanitary development, character of population, etc.

Relative Values of Health Work.

Vital statistics	60
Education	80
Laboratory	50
Control of nostrums.....	50
Care of sick poor.....	50
<i>Food</i> —	
Adulteration	0
Sanitation	10
<i>Milk</i> —	
Adulteration	3
Sanitation	17
<i>Nuisances</i> —	
Privy sanitation	60
Housing	20
Plumbing	10
Nuisances	10
Refuse removal	0
Fly and mosquito control.....	10
<i>Infant mortality</i> —	
Nurses	80
Supervision of midwives.....	10
Babies' boarding houses.....	5
Milk stations	5
Consultations	20
Prenatal clinics	10
School inspection	80
<i>Contagious diseases</i> —	
Home isolation	100
Hospitalization	50
Immunization	50
Venereal diseases	20
<i>Tuberculosis</i> —	
Nurses	60
Dispensaries	40
Hospitalization	40
	<hr/>
	1,000

* Abstract from *The Journal of the American Medical Association*, July, 1917.

In Providence, in sixty years, there has been a decrease in the annual number of deaths amounting to about 600 per hundred thousand living and confined practically to typhoid fever, smallpox, scarlet fever, diphtheria, tuberculosis, diarrheal diseases and other diseases of infants. It is not claimed that all of this reduction is due to conscientious effort on the part of the community, though the figures in Table 2 appear reasonable as a statement of the deaths prevented by official control, and also of the chief means by which the lives were saved.

Table 2. Means of Saving Life.

Typhoid fever	10 by direct control.
Typhoid fever	50 by privy control.
Scarlet fever	60 by direct control.
Diphtheria	20 by direct control.
Diphtheria	30 by free antitoxin.
Diarrhea, over 1 year	15 by privy control.
Tuberculosis, pulmonary	65 by direct control.
Tuberculosis, other	15 by direct control.
Infant mortality	70 by nurses, etc.
Infant mortality	10 by milk control.
Total	845

By putting the facts in a different form, it appears that community activities have been effective in saving these 345 lives in the ratios given in Table 3.

Table 3. Relative Values of Community Activities.

Direct control of contagious diseases	26
Direct control of tuberculosis	23
Antitoxin	9
Control of privies	18
Prevention of infant mortality	21
Control of milk	3
Total	100

These are old and tried lines of public health work and must hold the largest place in apportioning the activities of a municipal health department.

Of fundamental importance is the collection and tabulation of vital statistics. Only by this means can evils be located and remedies found.

Education of the public in matters pertaining to health is another basic function, which until recently has been much neglected and even now is often injudiciously performed. The leaders of thought and action in each community should be made familiar with the successes of modern sanitary science and the means by which they are obtained. Literature and motion pictures help—but the personal influence of the school teacher, the nurse, and the social visitor have thus far seemed to accomplish most.

The great leavening force in modern health work is the diagnostic laboratory. To control disease, either by prevention or cure, we must

first find it. This the laboratory helps us to do. The remarkable decrease in the case fatality of typhoid fever during the last twenty years or so is almost entirely a result of better diagnosis by the help of laboratory methods.

The care of the indigent ill should be considered a public health function. Sickness and poverty are closely related and the poor, both from necessity and indifference, neglect sickness. Medical care of the sick poor is in a chaotic or experimental state — this is a function which should be performed by the health department.

Closely connected with the care of the indigent ill is the elimination or restriction of the nostrum evil. To accomplish the latter, good medical service must be supplied in its place. A conscientious and efficient medical service for the poor will do more than anything else to wean them from nostrums.

Sanitation and food control are usually considered the principal functions of a city health department. By many people, municipal housecleaning is considered the chief duty of the "board of health." Some municipal sanitation is of great importance in the prevention of disease. Where there is no system of sewage disposal, as in some of the rural portions of our country, this subject may well have a large part of the health department's attention. However, the department should not be charged with the removal of refuse and garbage — this has an indirect connection with health but is essentially a function of the department of public works.

Control of food supply is a time honored means of promoting public health. This control is divided into the prevention of adulteration and the promotion of cleanliness. Milk should be considered apart from other foods. The most effective way to eliminate the danger from this source is to require the pasteurization of all milk.

Since all medical activities of the municipality should center around the health department, the medical inspection of schools becomes a proper function of this department. This is or should be a co-operative undertaking — neither the school department nor the health department can obtain satisfactory results without the free and generous assistance of the other.

Efforts directed toward the prevention of infant mortality show more apparent results than any other form of child welfare work. In practically every instance in which a community has undertaken to save the lives of its babies it has been successful. The chief means has been the education of the mother — wherever that has been successfully accomplished the infant death rate has fallen.

The direct control of communicable diseases by isolation and immunization is an important duty of the health department. Among methods of control, isolation in the home is probably the most important. Hospital care should be furnished for those so situated that isolation in the home is impossible.

Vaccines and curative serums have proven their value in the control of infectious disease, and experience has shown that the successful use of these agents depends to a great extent on the initiative of the city or state.

A modern campaign against tuberculosis makes use of many means and is often correlated with various private agencies. The most important municipal activities are nursing, dispensary service and hospitalization; the latter, which a few years ago was considered of first importance, has been given a secondary place.

The protection of the water supply is a function of the state department of health rather than a municipal department. However, it is the duty of the health officer to show by his morbidity statistics whether or not the water is above suspicion.

If the future health work is to be successful we must remember that the health work is not centered upon the environment — but that it is concerned directly with men and women. Community health work must have a broader outlook — it must do more than cleanse and isolate — it must educate and make use of the best medical knowledge to prevent and cure disease. With limited money and talent, a municipal health department must earnestly study to do that which pays best.

AMONG TUBERCULOSIS HOSPITALS OF STATE

Springfield Lake District. Application by the commissioners of Summit County for permission to add to the cottage colony at Springfield Lake District Tuberculosis Sanatorium has been formally granted by the commissioners of Columbiana, Mahoning, Portage and Stark Counties. All expenses will be borne by Summit County, if the plan is carried out.

Lima District. The board of county commissioners of Auglaize County has applied to the courts for the transfer of \$4,295.32 from the county dog fund to the tuberculosis hospital fund. It is represented that the tuberculosis fund is overdrawn to the extent of \$2,824.35 and the status of the dog fund is such as to permit of the withdrawal of the amount petitioned for.

Chillicothe District. At a meeting of the board of trustees of the Chillicothe District Tuberculosis Hospital December 28, it developed that the opening of the

hospital had been delayed because of lack of a water supply. Arrangements had been made with the Chillicothe Water Company to furnish water, but when Camp Sherman was located outside of Chillicothe, the water company failed to complete arrangements for the hospital supply. The board of trustees have plans for securing water within the near future.

Springfield District. Dr. R. R. Richison, superintendent of the Springfield District Tuberculosis Hospital, submitted his first report since his appointment, to the board of trustees at its regular meeting. The patients in the hospital at the end of the year 1917 were 34. The per capita per diem cost was \$1.98.

Physical examination of 1,700 men, women and children at Framingham, Mass., showed 82 percent with various diseased conditions. Many of these defects were such as could be prevented from becoming serious by early discovery and treatment.

Ohio Mortality Statistics for Month of September

Furnished by Dr. J. E. Monger, Registrar, Bureau of Vital Statistics,
Department of State.

The following table shows the number of deaths and the monthly death rate per 1,000 population, in each county of Ohio, for the month of September, 1917.

<i>Counties.</i>	<i>Number</i>	<i>Rate.</i>	<i>Counties.</i>	<i>Number</i>	<i>Rate.</i>
Adams	19	.8	Logan	26	.9
Allen	77	1.1	Lorain	97	1.1
Ashland	19	.8	Lucas	269	1.2
Ashtabula	67	1.0	Mahoning	224	1.4
Athens	62	1.1	Madison	10	.5
Auglaize	36	1.2	Marion	50	1.3
Belmont	126	1.4	Medina	21	.8
Brown	28	1.1	Meigs	25	1.0
Butler	77	.9	Mercer	20	.7
Carroll	6	.4	Miami	56	1.2
Champaign	35	1.3	Monroe	20	.8
Clark	98	1.4	Montgomery	213	1.1
Clermont	23	.8	Morgan	23	1.4
Clinton	28	1.2	Morrow	11	.7
Columbiana	98	1.2	Muskingum	69	1.1
Coshocton	12	.4	Noble	23	1.2
Crawford	32	.9	Ottawa	24	1.1
Cuyahoga	944	1.2	Paulding	11	.5
Darke	35	.8	Perry	43	1.1
Defiance	17	.7	Pickaway	30	1.1
Delaware	33	1.2	Pike	15	1.0
Erie	70	1.8	Portage	21	.7
Fairfield	40	.9	Preble	16	.7
Fayette	30	1.4	Putnam	18	.6
Franklin	304	1.2	Richland	70	1.4
Fulton	16	.6	Ross	55	1.4
Gallia	29	1.1	Sandusky	41	1.1
Geauga	16	1.1	Scioto	63	1.2
Greene	28	.9	Seneca	35	.8
Guernsey	38	.8	Shelby	26	1.1
Hamilton	543	1.1	Stark	204	1.4
Hancock	32	.8	Summit	251	1.8
Hardin	38	1.2	Trumbull	65	1.2
Harrison	17	.9	Tuscarawas	56	.9
Henry	13	.5	Union	17	.8
Highland	33	1.1	Van Wert	24	.8
Hocking	18	.8	Vinton	12	.9
Holmes	24	1.3	Warren	17	.7
Huron	40	1.1	Washington	41	.9
Jackson	34	1.1	Wayne	49	1.3
Jefferson	101	1.2	Williams	24	.9
Knox	23	.7	Wood	52	1.1
Lake	28	1.2	Wyandot	18	.9
Lawrence	48	1.2			
Licking	55	.9	Total	5,945	1.1

The following table shows the number of deaths and the monthly death rate per 1,000 population, in each of the 37 largest cities in Ohio, for the month of September, 1917.

<i>Cities.</i>	<i>Number.</i>	<i>Rate.</i>	<i>Cities.</i>	<i>Number.</i>	<i>Rate.</i>
Akron	168	1.9	Lorain	35	.9
Alliance	31	1.6	Mansfield	33	1.4
Ashtabula	23	1.0	Marietta	13	1.0
Bellaire	17	1.1	Marion	27	1.2
Canton	84	1.3	Massillon	21	1.4
Cambridge	16	1.2	Middletown	20	1.2
Chillicothe	27	1.7	Newark	31	1.0
Cincinnati	479	1.2	Norwood	18	.8
Cleveland	837	1.2	Piqua	22	1.5
Columbus	254	1.1	Portsmouth	40	1.4
Dayton	148	1.1	Sandusky	34	1.7
East Liverpool	33	1.4	Steubenville	41	1.4
Elyria	33	1.7	Springfield	75	1.4
Findlay	15	1.0	Tiffin	9	.7
Ironton	21	1.5	Toledo	249	1.3
Hamilton	45	1.0	Warren	20	1.5
Lakewood	32	2.0	Youngstown	73	.7
Lancaster	16	1.0	Zanesville	46	1.5
Lima	46	1.4			

Public Health Nursing Service

Report for November, 1917

	<i>Home visits.</i>	<i>Other visits.</i>	<i>Number patients under care.</i>	<i>Number nurses employed.</i>
Ashtabula	90	40	80	1
Athens	83	32	69	1
Bellefontaine	67	6	19	1
Bucyrus	130	32	16	1
Cambridge	97	129	25	2
Canton	534	...	66	3
Cincinnati—Anti-Tuberculosis League..	907	144	1,202	7
Cincinnati—V. N. A.	1,567	...	331	12
Circleville	176	6	49	1
Columbus—Anti-Tuberculosis League..	1,197	...	983	5
Columbus—D. N. A.	2,342	...	690	11
Cuyahoga Falls	320	18	...	2
Delaware	162	22	20	1
Elyria	129	13	34	1
Greenfield	84	54	28	1
Kenton	270	38	101	1
Lancaster	122	37	29	1
Lima	554	48	92	3
Lorain	164	...	32	1
Mansfield	196	6	51	1
Marietta	25	40	9	1
Marion	164	30	65	1
Massillon	365	28	78	1
Norwalk	95	63	...	1
Piqua	74	54	29	1

	<i>Home visits.</i>	<i>Other visits.</i>	<i>Number patients under care.</i>	<i>Number nurses employed.</i>
Portsmouth	858	175	478	4
Ravenna	107	6	19	1
Shelby	239	9	30	1
Sidney	75	111	10	1
Springfield—City Health Department...	152	6	116	1
Springfield—Fed. of Women Clubs....	134	3	83	1
Urbana	82	4	19	1
Xenia	52	45	16	1
Youngstown	1,971	12	365	10
Zanesville—Welfare Organization.....	91	38	39	1
Zanesville—Fed. of Women's Clubs....	119	17	24	1
Franklin County	31	38	36	1
Hamilton County	146	39	211	1
Lake County.....	17	51	17	1
Licking County.....	81	22	45	1
Trumbull County.....	134	...	141	1
Tuscarawas County.....	24	181	18	1
Not listed .....	...	...	65	..
<i>Totals</i>	14,227	1,597	5,765	91

The 5,765 patients under care, except the 65 given as "not listed," were grouped as follows, according to the nature of their cases:

Communicable diseases—	
Tuberculosis	2,875
All others.....	170
Maternity—	
Prenatal	205
Postnatal	193
Infants under two years old.....	608
Eye—	
Infants under 2 years old.....	24
All others	39
Other diseases—	
Medical	796
Surgical	462
Social service	328
<i>Total</i>	5,700

SUICIDE TOTAL LESS IN SIX CITIES OF OHIO

Ohio's suicide rate dropped greatly during 1916, if statistics for the cities of Cleveland, Cincinnati, Columbus, Toledo, Dayton and Massillon, recently published by the Spectator, New York insurance monthly, can be accepted as indicative of conditions in the state-at-large.

The average suicide rate per 100,000 population in these six cities in 1916 was 12.9. For previous years the averages were: 1901-05, 16.5; 1906-10, 19.3; 1911-15, 19.8.

Individual averages in the six cities for 1916 were: Dayton 27.5, Toledo 20.9, Cleveland 20.5, Cincinnati 16.6, Columbus 15.4, Massillon 6.5.

WAR AIDS STUDY OF CANCER STATISTICS

Following are extracts from the statement of Dr. J. A. Murray, Director of the Imperial Cancer Research Fund, in the Fifteenth Annual Report of the Fund, 1916-1917:

"The importance which has always been attached by statisticians to the age-constitution of populations in which cancer mortality has to be studied, receives striking justification by the results recorded in the Seventy-eighth Report of the Registrar-General (1915) published this year. The withdrawal of a large number of young men from civil life constitutes a most valuable statistical experiment, showing the effects of a sudden alteration in the age-constitution of a population." . . .

"The majority of the men withdrawn from civil life are under 35 years of age, and the cancer mortality figures for 1915 show the effects on a population of retaining the female sex in its normal proportions, while profoundly altering the relative proportions of the males above and below the age at which cancer is an important cause of death. . . .

"The change in the male population is on a large scale, affecting the whole country, and has taken place abruptly. It is analogous to those minor differences in age-constitution which have been attained slowly in isolated communities, and which go far to account for the phenomena of cancer villages and cancer streets. . . . It is obvious that the varying conditions in limited areas at the present time must produce anomalies, and in fact, in some districts the deaths of males from cancer equal, or even exceed, those of females. Without the data neces-

sary to effect the corrections for age and sex, crude death-rates for such limited areas can only be misleading and may cause unnecessary alarm and distress.

"Undue importance should not be attached to the interruption in 1915 of the steady yearly increase of cancer mortality, the first since 1907. The conditions are abnormal, and as was pointed out in the Annual Report two years ago, the dislocation and diminution of the civil medical service by war conditions, may well affect the fidelity with which the national mortality figures reflect the absolute incidence of such a disease as cancer."

HEALTH IN CAMPS

His friends had known him for a number of years as a young man who had his "good times" and plenty of them. He had been raised under conditions approximating those of the average Sandusky home, with neither luxuries nor hardships, and had received a fair education. Then he had taken up clerical work and later had become a salesman. He was, in short, an average, good sort of young chap, unaccustomed to manual labor and certainly unused to self-denial.

He was called to the colors and a month or so ago he left with a contingent for a training camp. Within a few days he had discarded his citizens' clothes, donned a uniform, and became a private in the ranks, doing his regular turn at drills and other work, washing his own dishes and clothes, and eating very ordinary food that wouldn't have tempted him at home. Not only this but he was going to bed early each night and was out early in the morning.

The other day he came home,

along with some other comrades, for a few hours' visit. And everywhere he went his friends commented upon his fine appearance. He stood more erect, with head and shoulders back. His uniform and overcoat of khaki fit him excellently. His face was clear and ruddy, like that of a healthy, robust farmer boy. He had gained slightly in weight and his muscles were like iron. He said he had a fine appetite, hadn't touched a drink of liquor since he left home, and in every way was feeling "fit."

The case is typical of many. Almost without exception, the boys who come home from camp appear stronger and better, physically, than when they left home. The rigorous training has done them a world of good. They enjoy hard work and the coarse, substantial food. They find that they can get along very well without strong drink, and with only occasional sweets sent them by the "folks back home." They have come through the period of vaccination and inoculation, making them immune to typhoid fever, smallpox, etc., and life in the open air, with plenty of exercise, has developed them and toughened them wonderfully. They have acquired, in fact, what they would have paid a physician a good-sized fee to assure to them.

Ail reports indicate that the health of the men in the military camps is remarkably good. Of course there are some cases of illness and occasionally some man is found who is physically unfit to undergo the rigorous program of training. The percentage of cases of sickness, however, is really lower than among the same number of civilians at home, and the death rate, not only in the camps in this country, but "somewhere in France," is far below the average.

In other words, barring accidents and casualties in the service, the average life of a man in the military service has been considerably lengthened.

In comparison with our experiences in previous wars, notably in the Spanish-American war, this showing of health in the camps is so excellent as to be most encouraging. Our surgeons and army officers have learned that the prime essential is good, substantial food and sanitary surroundings. The results attained are so altogether excellent as to make us hope that the day is not far distant when we shall have universal military training. Even though there should be no further use for armies in the future, the training would at least be good for our young men. — *Sandusky Star-Journal*.

DEPARTMENT TO LEND WATER CHLORINATOR IN EMERGENCY CASES

The division of sanitary engineering of the State Department of Health now possesses an emergency apparatus for the chlorination of water, which will be available for use by any city of the state when need suddenly arises for temporary disinfection of water. The division has been hampered by difficulty in obtaining chemicals for the machine, but as soon as this difficulty is overcome, no obstacles will be in the way of its services.

The chlorinator was used for several weeks recently in Hamilton, where the calling into use of an emergency water supply made disinfection necessary. The Hamilton city authorities in this case obtained the materials which the department could not supply.

DEPARTMENTAL REPORTS BY DIVISIONS

DIVISION OF COMMUNICABLE DISEASES

Notifiable Diseases, December, 1917

Prevalence. For the month of December, 6,785 cases of notifiable diseases were recorded to date of January 15, 32 cases less than were reported for December, 1916, (6,817 cases) and 1,929 less than for December, 1915, (8,714 cases). The cities of the state, together with Camp Sherman and the aviation field at Fairfield, reported 4,212 cases, 62 percent of the December total, as compared with 66 percent of the total reported by the same health districts for November and 70 percent for October. In order of greatest reported prevalence for the month, the diseases list as follows: (1) Chickenpox 1,438 cases, (2) smallpox 1,050, (3) diphtheria 752, (3) scarlet fever 752, (4) whooping cough 540, (5) mumps 471, (6) measles 456, (7) tuberculosis 382, (8) pneumonia 369, (9) measles (German) 149, and (10) ophthalmia neonatorum 105 cases. For no other one notifiable disease was a total of 100 or more cases recorded for December. A total of 645 health districts, 30 percent of all districts, recorded the presence of one or more cases of notifiable diseases during December, compared with 25 percent recording disease in November and 26 percent in October.

Smallpox. The total of 1,050 cases of smallpox recorded to date of January 15, for the month of December exceeds by almost 200 cases the total for any month on record for the past five years, the January, 1914, total of 883 being the next highest. With the increased prevalence of the disease when prompt case reports are most valuable, health officers have unfortunately failed to submit as great a proportion of case cards as usual. It is the aim of the reporting system to secure the case history card for every case of notifiable disease. The system should not fall down in times of epidemics when it is most valuable. Health officers will endeavor to submit all back cards if they desire their records and their reputations valued. The following table shows the distribution of cases by counties for the past two months.

REPORTED CASES OF SMALLPOX, BY COUNTIES, NOVEMBER AND DECEMBER, 1917.

<i>County</i>	<i>Nov.</i>	<i>Dec.</i>	<i>County</i>	<i>Nov.</i>	<i>Dec.</i>
Allen .....	...	1	Cuyahoga	84	135
Athens	4	15	Darke	10	28
Auglaize .....	...	6	Defiance	4	3
Belmont	1	...	Delaware .....	...	1
Butler	10	38	Erie .....	...	5
Clark	14	7	Fairfield	3	5
Clermont .....	...	1	Fayette	3	40
Clinton	3	1	Franklin	20	25
Columbiana .....	...	2	Fulton	8	3
Coshocton	1	1	Greene	38	42
Crawford .....	...	1	Guernsey	4	1

County	Nov.	Dec.	County	Nov.	Dec.
Hamilton	7	35	Perry	1	2
Hancock	...	14	Pickaway	...	29
Henry	...	36	Pike	2	10
Highland	3	3	Portage	23	46
Hocking	30	4	Preble	...	3
Holmes	...	3	Putnam	20	3
Huron	1	...	Ross	6	6
Jackson	...	9	Sandusky	1	...
Knox	...	1	Scioto	78	29
Lake	1	1	Shelby	150	95
Lawrence	4	10	Stark	19	31
Logan	...	4	Summit	104	114
Lorain	1	8	Trumbull	6	16
Lucas	15	20	Tuscarawas	6	7
Mahoning	5	5	Van Wert	8	1
Medina	14	44	Vinton	...	1
Mercer	3	5	Warren	...	14
Miami	26	10	Washington	2	1
Montgomery	20	22	Wayne	10	43
Morrow	...	1	Williams	2	1
Paulding	...	2			
			Total	775	1,050

Chickenpox. For two months chickenpox has headed the notifiable diseases listed as to greatest reported prevalence. The December total exceeded the November reports by 220 cases and as shown by the table for December, 1915-17, was higher than the totals for the month both years. Toledo recording 388 cases in November, reported 279 cases for December. Cleveland recorded 119 cases for December, Cincinnati 99, Akron 80 and Columbus 62 cases. Complete reports for Dayton have not been received to date but at least 50 cases were recorded during the month. The six cities reported 689 of the 1,438 cases for the month, 48 percent.

Diphtheria. Excluding the 435 cases in the eight cities listed immediately following, the remainder of the December cases, 317, were scattered, having been reported from 140 health districts in 58 counties. Cleveland reported 176 cases, Cincinnati 81, Toledo 46, Akron 43, Dayton 36 (incomplete), Columbus 29, Lima 17 and Findlay 7 cases. The latter two cities have had high case rates for three months past, the reduction for Lima for December not being so marked as the reduction for November, Lima having reported 32, 19 and 17 cases, Findlay 17, 12 and 7 cases for the three months.

Scarlet Fever. The total of 752 cases recorded to date of January 15, for scarlet fever was the same figure recorded for diphtheria for the month and 6 cases less than reported for November, although previous years of record show tendency for increase in December over November.

Meningitis, Epidemic Cerebrospinal. The reports for December, 1917, more than double the figure for December, 1916, 30 cases against 13. The cases were reported as follows by counties and health districts; Adams Co., Winchester Tp. 1; Athens Co., Nelsonville 1; Cuyahoga Co., Cleveland 5; Franklin Co., Columbus 1; Madison Tp. 3; Hamilton Co., Cincinnati 1, Addyston 1; Lucas Co., Toledo 3; Mahoning Co., Smith Tp. 1; Medina Co., Wadsworth 1; Montgomery Co., Dayton 4; Ross Co., Camp Sherman 8.

**REPORTED CASES OF NOTIFIABLE DISEASES, DECEMBER, 1915-17,
DISTRIBUTION DECEMBER, 1917, FOR CITIES AND FOR
VILLAGES AND TOWNSHIPS.**

<i>Disease.</i>	<i>December 1917.</i>			<i>1916 Dec. Total.</i>	<i>1915 Dec. Total.</i>
	<i>Cities.</i>	<i>Villages and Townships.</i>	<i>Total.</i>		
Chickenpox	931	507	1,438	1,347	1,113
Diphtheria	581	171	752	934	1,064
Gonorrhea	75	18	93	124	173
Measles	273	183	456	1,560	1,847
Measles, German.....	81	68	149	37	28
Meningitis, Epidemic Cerebrospinal...	23	7	30	13	18
Mumps	252	219	471	130	222
Ophthalmia Neonatorum.....	100	5	105	136	99
Pneumonia	254	115	369	404	659
Poliomyelitis, Acute Infectious.....	6	1	7	7	15
Scarlet Fever.....	357	395	752	860	1,369
Smallpox	528	522	1,050	228	244
Syphilis	45	7	52	74	85
Trachoma	11	2	13	34	22
Tuberculosis, All Forms.....	334	48	382	416	459
Typhoid Fever.....	61	31	92	159	375
Whooping Cough.....	291	249	540	344	910
Cancer	5	24	29	8	.....
Continued Fever.....	.....	.....	.....	.....	1
Malaria .....	.....	.....	.....	1	1
Paratyphoid Fever.....	2	.....	2	.....	4
Septic Sore Throat.....	.....	1	1	.....	4
Tetanus	2	.....	2	1	2
<i>Total</i>	4,212	2,573	6,785	6,817	8,714

DIVISION OF PUBLIC HEALTH EDUCATION AND TUBERCULOSIS

December, 1917

Educational Work

Literature. 879 pieces of 16 varieties of literature were forwarded from this department during the month.

Publicity. Nine newspaper publicity stories were released, as follows: Two of general interest to state, released to three press associations, which together serve 100 papers; seven of interest to particular localities, sent to 61 papers. The December number of the Ohio Public Health Journal, comprising 48 pages, frontispiece and cover, completed Volume 8.

Nursing Service

On December 1 Miss Jessie L. Chapman succeeded Miss Margaret R. Simpson as prevention of blindness nurse.

On December 1 Miss Gertrude R. Steckel resigned from her position as public health nurse for Bellefontaine. She will be succeeded by Miss Annie J. Cunningham.

On December 31 Miss Virginia Lewis and Miss Annie J. Cunningham of the Portsmouth Bureau of Community Service resigned. Miss Lewis will take charge of the nursing work of the Columbus Society for the Prevention of Tuberculosis.

Mrs. Grace Burbank is doing public health nursing work throughout Portage County. This service is being supported by a private organization.

The James B. Clow Co. of Chicago has appointed a public health nurse for the employes of its plant in Newcomerstown.

Tuberculosis Hospitals

Site committee of tentative Tuberculosis Hospital District No. 3 inspected several sites during the month, and expected to call upon the Department in the near future for the approval of one or more of these sites.

Admissions and Discharges. From December 1 to 31, 182 notifications were received, 85 of which were of admitted patients, 97 of discharged patients. Of these, 136 were referred to local public health nurses for instruction, investigation and report. Twenty-one were investigated by Division nurses, 14 were found whose histories were unobtainable and 11 were pending investigation.

Of the 57 pending notifications December 1, 36 were investigated by division nurses, three were referred to local nurses, four had histories which were unobtainable, and nine were returned uninvestigated. Eleven new pending cases were added, making a total of 34 pending cases January 1.

NOTIFICATION OF TUBERCULOSIS HOSPITAL ADMISSIONS AND DISCHARGES RECEIVED BY THE DIVISION OF TUBERCULOSIS, STATE DEPARTMENT OF HEALTH, DURING THE MONTH OF DECEMBER, 1917.

<i>Institution.</i>	<i>Total No. Patients Reported.</i>	<i>No. of Admis- sions.</i>	<i>No. of Dis- charges.</i>	<i>Total No. Admissions and Dis- charges.</i>
Ohio State Sanatorium.....	36	13	23	36
Butler County Sanatorium.....	2	1	1	2
Franklin County Sanatorium....	19	12	10	22
Lucas County Tuberculosis Hos.	24	12	15	27
Dayton District Hospital.....	10	5	5	10
Lima District Hospital.....	16	6	12	18
Springfield District Hospital....	9	5	5	10
Springfield Lake Sanatorium....	23	18	11	29
Rocky Glen Sanatorium.....	7	3	5	8
St. Anthony's Hospital.....	15	10	10	20
Total	161	85	97	182

Prevention of Blindness

Cases Reported	101
White	98
Colored	2
Unknown	1

Male	45
Female	54
Unknown	2
Cases reported by physicians.....	34
Cases reported by midwives.....	40
Cases reported by nurses.....	24
Cases reported by institutions.....	2
Cases reported by laymen.....	1
Instructions to health officers by telephone.....	2
Cases investigated by Department.....	5
Cases provided with nursing care by Department nurse.....	3
Cases provided with nursing care by special nurse.....	2
Cases reported as having impaired vision —	
Right eye totally.....	1
Left eye partially.....	1
(November case not reported then.)	

DIVISION OF INDUSTRIAL HYGIENE

Summary for December

Dr. E. R. Hayhurst assumed his duties December 18 as consultant to the division. Plans have been made for the direction of the energies of the department toward the industries manufacturing war materials. Assistance was given the Division of Tuberculosis during the month in listing by counties in the order of their importance the industrial pursuits in Ohio. Attention was given to plans for the issuance of certificates of vaccination to the students of Ohio State University.

Investigations

Airplane dope poisoning	1
Munition survey	1
Occupational histories of tuberculosis cases.....	1
Experiments with apparatus.....	2
Oil infections	1

Cases of Tuberculosis arranged according to the U. S. Census Classification, reported in connection with gainful occupations:

<i>U. S. Census Symbol.</i>	<i>U. S. Census Classification.</i>	<i>Male.</i>	<i>Female.</i>
000	Agriculture, Forestry and Animal Husbandry.....	2	0
100	Extraction of Minerals.....	1	0
200	} Manufacturing and Mechanical Pursuits.....	49	6
300			
400			
500			
600	Transportation	9	1
700	Trade	9	1
	{ Public Service	4	2
	{ Private Service	10	0
800	Domestic and Personal Service.....	13	18
900	Clerical	7	5
	Not Designated	118	0
Total		222	33

DIVISION OF LABORATORIES

December, 1917

Examinations and Analyses —

Bacteriological Examinations:

Tuberculosis, pos. 75, neg. 232	307
Diphtheria, pos. 118, neg. 289, susp. 24, no growth 5 ..	436
Typhoid, pos. 9, neg. 31, susp. 5	45
Rabies, pos. 6, neg. 2, susp. 3	11
Water	69
Miscellaneous	3

Total	871
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Chemical Samples:

Water	8
Miscellaneous	7
Sand (Mechanical Analysis)	1

Total	16
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Samples Submitted by State Board of Agriculture:

Foods	88
Drugs	57
Fertilizer	2
Stock Foods	54

Total	201
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Grand Total	1,088
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Distribution of Outfits —

Tuberculosis	459
Diphtheria	479
Typhoid	168
Malaria	33
Ophthalmia	4,032
Typhoid vaccine	90
Water Chemical	6
Water, Bacteriological	124

Total outfits distributed	5,391
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Food and Drug Samples Tested —

Material.	Total.	Satis- factory.	Mis- branded.	Adult- terated.	Insufficient information.
Milk	23	15	0	5	3
Cream	6	0	0	0	6
Lard	10	7	0	3	0
Sausages	9	4	0	5	0
Hamburg	1	0	0	1	0
Vinegar	3	3	0	0	0
Cider	1	1	0	0	0
Maple Syrup	2	0	2	0	0
Candy	1	1	0	0	0
Catsup	4	4	0	0	0
Vanilla Ext.	6	0	2	4	0
Lemon Ext.	3	1	1	1	0
Miscellaneous Exts.	4	0	4	0	0

<i>Material.</i>	<i>Total.</i>	<i>Satisfactory.</i>	<i>Mis-branded.</i>	<i>Adulterated.</i>	<i>Insufficient information.</i>
Egg Noodles	1	1	0	0	0
Egg Substitutes	9	6	3	0	0
Miscellaneous Foods	5	4	1	0	0
Total Foods	15	11	4	0	0
Tr. Iodine.....	17	14	0	3	0
Spts. Camphor	2	2	0	0	0
Camphorated Oil	6	6	0	0	0
Bay Rum	6	1	0	5	0
Witch Hazel	1	1	0	0	0
Ess. Ginger	1	0	0	1	0
Ess. Peppermint	3	0	0	3	0
Paregoric	2	0	0	0	2
Acetylsalicylic acid	3	3	0	0	0
Quinine	3	1	0	1	1
Phenolphthalein	1	1	0	0	0
Turpentine	1	1	0	0	0
Olive Oil	1	1	0	0	0
Misc. drugs	10	8	1	1	0
Total Drugs	57	39	1	14	3
Totals	145	86	14	33	12

DIVISION OF PLUMBING

Summary for December

Inspections made	32
Conferences held	3
Plans examined	11
Certificates of approval issued.....	1
Orders issued	5

DIVISION OF SANITARY ENGINEERING

Summary for December

Investigations made (water, sewage, etc.).....	18
Plans received	12
Water examinations for railroad companies—	
Certificates of approval issued.....	8
Certificates of approval refused.....	2
Reports submitted to commissioner for action.....	8
Conferences	1

DR. MONGER GIVES MEMO BOOKS FOR BIRTH DATA

To insure the accurate collection and prompt forwarding of data for birth certificates, Dr. J. E. Monger, state registrar of vital statistics, has recently prepared a

pocket-size book for the recording of this information, a copy of which will be given to any physician upon application to his local registrar of vital statistics. Local registrars are supplied from the state registrar's office in Columbus.

PUBLIC HEALTH NOTES FROM OVER THE STATE

Investigation of Lancaster's milk supply sources disclosed several in a "deplorably unsanitary condition," according to Health Officer H. M. Hazelton's recent report to the board of health of that city. Sale of milk from these sources was forbidden until conditions were remedied. Dr. Hazelton made these suggestions for 1918:

Adoption of a sanitary code.

Inspection of milk, and prohibition of sale of milk except in bottles and under health department permit.

Transfer of garbage collection to service department.

Employment of fulltime sanitary policeman.

Sewer connections for privies and cesspools.

Cleanup day.

Monthly examination of water supply.

Closer relation between health authorities and schools for control of communicable diseases.

More accurate and earlier reporting of communicable diseases.

Prohibition of raising of hogs in the city limits.

* * *

A proposed new sanitation code for Cleveland has been drawn up by city officials and representatives of the Chamber of Commerce. It is primarily a recodification and makes few changes in existing regulations.

* * *

A recommendation against the establishment of a municipal hospital in Dayton was made by Dr. J. A. Hornsby of Chicago, editor of "The Modern Hospital," following an investigation, made for the Dayton bureau of research, into present arrangements between the city and two privately managed hospitals for the care of charity

patients. He said a municipal hospital fitted to Dayton's needs would cost \$900,000 to construct and would necessitate an annual operating expenditure of \$180,000. The present plan, with a payment of \$60,000 yearly to each of the two hospitals, is cheaper and, according to Dr. Hornsby, is just as satisfactory.

* * *

Mayor Tucker of Elyria, imposed a \$5 fine upon a woman resident of a foreign section of Elyria, as a penalty for her violation of a diphtheria quarantine by leaving the premises.

* * *

Persons rejected for military service on account of curable defects will be given free treatment to fit them to enlist, by surgeons of the United States Public Health Service, according to an order of the surgeon general of the service. Such persons, in number not to exceed 10 at any one time, may be admitted to marine hospitals for treatment.

* * *

The Cincinnati Associated Charities has undertaken a study of the number of tuberculosis cases which exist among the people who are under its care. The amount of money needed to support a tuberculosis family as compared with the amount they are actually receiving from the Associated Charities will be studied, with a view to reorganizing the work and placing a worker in that special field.

HEALTH OFFICERS' ROUNDTABLE

Health Budget Cut

Public health appropriations recommended in Cleveland's 1918 budget sustained heavy cuts in council. The total estimate of \$409,807 was reduced to \$281,254 in the appropriation ordinance as passed. The heaviest reduction was in the laboratory allowance, which was cut nearly one-half—from \$56,035 to \$28,668. Other cuts were:

General administration from \$8,110 to \$6,596.

Communicable diseases from \$50,710 to \$41,755.

Tuberculosis from \$76,259 to \$53,086.

Child hygiene from \$76,755 to \$49,381.

Sanitation from \$63,625 to \$43,476.

Food and dairy inspection from \$61,608 to \$48,921.

Vital statistics from \$6,510 to \$3,631.

Estimates of \$5,500 for health education and \$4,695 for prenatal care were wiped out entirely.

Urges General Vaccination

Health Officer C. W. Chidester of the city of Delaware recently issued this "Card to the Public":

Smallpox is quite prevalent in Ohio. There are cases in every large city in the state and in many smaller ones, and in some country districts. It is generally mild and frequently the patient feels no particular illness and travels about while in the eruptive stage. Three times within the last year the disease was brought into Delaware by exposures of our own people while visiting or being employed elsewhere. One of these victims was exposed while em-

ployed in a city, one while visiting in a city, and one while visiting in the country. Not one of them had ever been vaccinated. Our physicians were prompt in recognizing and reporting these cases. This, with quarantine and compulsory vaccination of exposed persons, prevented each time a spread of the disease and possibly epidemics.

There are a large number of persons in Delaware, especially children, who have never been vaccinated. In view of the fact that smallpox is so prevalent in Ohio and in the middle states, and that so many people are traveling at this time of the year, I wish to urge every one who has not been vaccinated to obtain such protection against smallpox during the holiday vacation. Ask your physician about it. The virus now used is safe when properly applied. A case of smallpox means a loss of at least six weeks of time and earnings, and is very expensive to the city. I urge vaccination as a protection to yourself and to others, and as a patriotic duty.

Can't "Farm Out" Hospital

A city has no legal right to contract for private management of a municipal contagion hospital, declared Attorney General McGhee in a recent ruling. The question which brought about the ruling was raised in Lorain.

Fight School Vaccination Order

The question of the right of a board of education to exclude an unvaccinated student from school came up in Franklin County in December, when a student of Grandview Heights High School, alleging that his physician had told him vaccination might lead to serious results, sued to gain admittance to school in spite of a vaccination order. Judge Rath-

nell granted a temporary restraining order enjoining the school officials from excluding the boy until the case could be heard.

Assumes Office in Xenia

Dr. R. H. Grube assumed office as health officer of Xenia with the installation of the city's new city-manager form of government at the beginning of the year. He succeeds Dr. A. C. Messenger.

Dr. Grube was once a member of the State Board of Health and is now Greene County member of the board of trustees of the district tuberculosis hospital at Springfield. He has recently been serving as health officer of Xenia township, Greene County, in the absence of Dr. D. E. Spahr.

Difficulties of Quarantine

Discussing the spread of small-pox in Hancock County, alleged to have been aided by mistaken diagnoses and consequent lack of strict quarantine in rural health districts, the *Findlay Republican* has the following:

The situation leads back to the futility of the quarantine laws of Ohio where the isolated districts are looked after by fellow citizens who are black-listed for life if they force the expense of a quarantine on a township or curtail a citizen's privilege to spread contagion.

The health department of Findlay is facing this condition this week: The lack of proper quarantines in townships has cost the city large sums of money and in death tolls only recently. Health Officer Beardsley has been sick for the last week and got up out of a sick-bed to investigate conditions in the western townships. State authorities have been summoned and local authorities are exerting every power possible to curb disease.

The appeal to the Findlay board of health is ineffective as the Findlay board can only quarantine against the districts afflicted.

"The executive officer is all right but

when a community refuses to assist in the keeping of a quarantine, Findlay can only quarantine against them," said Health Officer Beardsley.

Health Council's Program

Cincinnati's newly organized Public Health Council, which coordinates various health agencies of the city, will devote a large share of its time to anti-tuberculosis work. Free lectures, dealing with proper housing, home sanitation and use of public recreational facilities, will be offered by the council.

Its program recommends federal sanatorium camps for tuberculous soldiers, federal and state farm colonies for civilians and a law permitting Ohio cities to create a special tuberculosis fund not exceeding \$1,000,000 for sanatorium and dispensary purposes.

Health Officer Landis of Cincinnati is chairman of the council. Dr. Martin Fischer is vice chairman, Charles Boldt second vice chairman, C. M. Bookman treasurer and Courtenay Dinwiddie secretary.

New Whooping Cough Procedure

Cincinnati health authorities have discontinued the practice of excluding from school all children of a family in which a case of whooping cough exists, and will hereafter exclude only the children who have whooping cough or who manifest catarrhal symptoms.

The new procedure is not only safe, according to Health Officer Landis, but will also lead parents to call in physicians sooner in case of whooping cough, inasmuch as it will be necessary to learn through medical examination which children may continue in school.

The new regulations, in addition to this change, provide that a person having whooping cough must

avoid contact with other persons and must not go to the theater, church, motion picture show or other public assembly nor ride in street cars or other public conveyances. These restrictions extend until 10 days after the spasmodic stage is over. Children who have had whooping cough will not be admitted to school unless they have school permits.

To Save the Baby

A program for the protection and conservation of infant life must aim to make it possible for every mother to have pre-natal nursing service; for every baby who is delicate or who is bottle-fed, or sickly, to be under the skilled supervision of the doctors and nurses of babies' health stations; for every mother who is nursing a baby to have sufficient food and sufficient milk for herself and her child; for every baby who is bottle-fed to have enough and good enough milk at a price which its parents can pay; to enable every father and mother to know where and how these benefits can be obtained at their expense when they can meet it, or free if they cannot. Such a program is vital to the community in peacetime. In war-time it is the same, only raised to a higher power.—Michael M. Davis, Jr., Ph. D., in *Your Health*, Cleveland Health Department.

Old Health Fallacies

Just now when the citizens of Lima are passing through the wheezing and sneezing season and when germs that have been dormant during the cold weeks are awakening to life and preparing for a combined attack upon the populace there is no topic, outside of the European war, more generally discussed than "home reme-

dies." Especially among the women folk is there a universal exchange of health recipes at this time, "cures" that are meant well in every instance and run from good and bad to indifferent.

We've never outgrown the health fallacies of our forefathers, any more than we have ceased to lend ear to the man who has his own special cure for rheumatism, lumbago or a cold in the head. There are still many clever and cultivated people who believe that rubbing the eyelids with a wedding ring will cure a sty, and that piercing the ears strengthens the vision. We still have with us some who contend that lunatics are affected by the phases of the moon, and that the application of red flannel (it must be red) will cure sore throat. You've possibly been guilty yourself of telling some fellow that a piece of beefsteak is good for a black eye and that the swallowing of grape seed produces appendicitis.

We can't help clinging to these old fallacies. Its human nature, and we hang on to them as tenaciously as a bat to a brick wall. Doctors may attempt to discourage us and specialists may call us crazy. But right now when the allied armies of germs are getting ready to pour a regular barrage fire of suffering into us we're willing to seize upon most any "remedy" that is suggested and let the doctors call us what they like.—*Lima Times-Democrat*.

New Health Head in Dayton

Dr. A. O. Peters is Dayton's new health officer. Dr. Peters, who has been serving as epidemiologist and head of the staff of district physicians, succeeds Dr. A. L. Light, health officer ever since Dayton installed the commission-manager form of government.

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EDITORIALS

Smallpox — A Warning Repeated Once More

Warning and reproof have been administered more than once by the State Department of Health—and still Ohio's smallpox outbreak grows more serious each week. Sometimes physicians are to be blamed for the spread of the disease—sometimes local health officials—sometimes the victims themselves.

In any case, an undue spread of smallpox in any locality means that someone—physician, health official or ordinary citizen—has, either willfully or through ignorance, been guilty of neglect.

Smallpox is too easily preventable a disease to allow one to consider Ohio's recent unprecedented spread of the infection as a mere case of bad luck.

The cardinal points in smallpox prevention are these:

- (1) Thorough vaccination of the community,
- (2) Careful diagnosis,
- (3) Immediate isolation,
- (4) Prompt notification,
- (5) Adequate quarantine.

All of these have, at one place or another and in varying degree, been disregarded in Ohio. The results are evident.

Such an astonishing wave of smallpox as recent months have seen in the state will hurt Ohio in more ways than one. The reputation of the Buckeye commonwealth outside her own boundaries will certainly not be enhanced by the publication of the January statistics. Business relations with other states will suffer. Eighteen hundred smallpox quarantines in a month mean a heavy loss in wages and a diminution of the state's labor supply.

Every one who is interested in Ohio's progress owes it to his state to aid in every way possible the stamping out of the smallpox menace.

* * *

Tell the Truth About Disease Conditions

A certain community in the state—like numerous others—reported a very large number of cases of smallpox in January.

On January 24, there appeared in a paper in the town in question, the following article:

Reports of a smallpox epidemic and hundreds of cases of the disease in which are being spread in neighboring communities. and without reason and instigators of such false reports should be hunted down and prosecuted. There have been six or eight families in quarantined for cases of small pox, which disease has, of course, worked itself through nearly the entire family, but as far as any epidemic of the disease existing in there is no occasion for any person to spread such a rumor, except to injure citizens in the business at The health board of took prompt means to stamp out the spread of the smallpox and a strict quarantine has confined itself to the families affected. All cases have, with but wto exceptions, completely recovered, quarantine has been lifted, business is going on as usual, and any one desiring to come to may do so feeling that his health is much safer here in a town that safeguards the community by strict quarantine rules than in smaller villages where no health boards exist and in communicable diseases are not restrained by the iron hand of the law.

Persons in nearby towns who read the preceding article when it appeared and who now see figures given out by the State Department of Health are going to decide either that those "six or eight families" which smallpox "worked itself through" were unusually large families or that somebody is misrepresenting the situation.

The newspaper article was evidently intended to reassure frightened persons in nearby places and prevent any injury to business in the smallpox-infested town.

Did it achieve this aim? Probably not at all; certainly not more than temporarily.

What, then, is its real result? To make persons in other towns in future believe the most wildly exaggerated rumors of disease conditions in the town in question; to make them, remembering this falsification, doubt any published statement this town may issue with regard to disease conditions.

Probably the rumors whose instigators the paper thought should be prosecuted were exaggerated; certainly there were not "hundreds" of cases in the town in January. Just as certainly, however, there were more than "six or eight families" quarantined—or at least far more than that number had smallpox and should have been quarantined.

Why should not the newspaper have met these exaggerated rumors with a calm statement of the true situation and of the measures undertaken to remedy conditions?

Would not the long run effect of such a course have been better?

The truth may hurt, but it will never do the permanent damage that falsehood always does.

* * *

Athens Enjoying Course of Health Instruction

The city of Athens is being educated in health matters this winter by a series of free lectures, addressed to "women between the ages of eighteen and eighty." "Live a Little Longer" is the

general title of the course, which contains lessons in how to keep well and how to care for the sick and injured.

The result should be an extension of knowledge of these subjects that will serve as a basis for the upbuilding of a higher standard of health in the community.

Weekly lectures are being given, some of them by physicians of the city and others by Miss Grace E. Donsing, the public health nurse. The course extends over twenty weeks.

Subjects to be discussed by the physicians are these: "Care of Childbirth," "Care of Child," "Adolescence," "Emergencies," "First Aid," "Motherhood," "Disease and Its Cause," "Anatomy," "Goitre," "Contagious Diseases," "Diet and Its Relation to Disease," "Diseases of Special Senses."

Miss Donsing will conduct these lessons: "Baby's Bath," "Bed Making," "Home Care of the Sick," "Fever Nursing," "Bath Giving to Bed Patients," "Special Baths," "Infant Feeding," "Invalid Food and Preparation."

The physicians of the city, the Federation of Women's Clubs and the Chamber of Commerce are co-operating in the course of instruction, which has been approved by the board of education and the city health department.

* * *

Transportation Tieup and the Laboratories

Physicians, health officials and others who have occasion to submit specimens to the Division of Laboratories of the State Department of Health are cautioned to take into account, in making their shipments, the present uncertainty in transportation facilities.

During the past few months numerous specimens have been lost in transit enroute to the laboratories. Bottles of water have arrived broken by the freezing of their contents, and thus so contaminated that analysis was useless.

Under conditions such as we have experienced recently, the railroads and express companies can not be depended upon invariably to get shipments to their destination, and certainly can not be trusted to deliver them promptly and in good condition.

If it is essential that a specimen be examined without delay, the sender will do well to bring it in himself or to dispatch it by messenger.

* * *

Dr. Paterson Again Heads Tuberculosis Work

Dr. Robert G. Paterson re-entered the service of the State Department of Health February 1 as director of the Division of Public Health Education and Tuberculosis. He will serve in this, his former position with the Department, during the leave of absence of Dr.

John R. McDowell, who is a major in the medical corps of the army.

Dr. Paterson was head of the tuberculosis division from the time of its organization, in 1913, until September, 1916, when he left to resume the position of executive secretary of the Ohio Society for the Prevention of Tuberculosis, which he had filled before the Department's anti-tuberculosis work was begun.

The return of the former division head insures the efficient conduct of the state's anti-tuberculosis activities during the war, when such efficiency is especially needed.

* * *

A Word of Thanks to the Press of Ohio

The State Department of Health has recently undertaken to extend its efforts in the field of newspaper publicity by sending out a weekly news letter to every paper in Ohio. The news letter comprises items telling of progress in public health work in the state and educational matter designed to help the people of the state protect themselves against disease.

The inauguration of this service brought a spontaneous response from papers, both large and small, throughout the state. Offers of co-operation and assurance of willingness to aid in every possible way a program for the conservation of Ohio's health came in in gratifying numbers. Evidence that these expressions of support were more than mere words was furnished by the publication of the Department's material in many papers, from the smallest country weeklies to the largest city dailies.

Newspaper men of the state are asked to consider this editorial as a personal word of appreciation to each one of them from the State Department of Health. The Department does not under-estimate the importance of support from the press in arousing the interest of the people in any movement or program. It realizes that public health work, to be most efficient, must be able to reach out and touch the individual citizen. And the simplest way to achieve this necessary contact is through the columns of the newspapers.

Ohio newspapers have assumed with an encouraging willingness the responsibility which has been offered to them. The State Department of Health both congratulates and thanks them.

* * *

Results of Inattention to Health Administration

A "horrible example" of what lack of attention to public health matters can do to a community is furnished in a report of an investigator of the State Department of Health, filed after he had in-

vestigated the prevalence of scarlet fever in a southeastern Ohio village. Summarized, his report tells this story:

The village of 87 inhabitants has been incorporated for 50 years, but for several years last past no municipal officials have been elected and offices are vacant. With no one in charge of public affairs, public improvements have been neglected and sidewalks, drainage, buildings, etc., are in bad condition. Two creeks which flow through the village occasionally overflow and flood the streets. Sidewalks are buried in mud and bridges and board-walks have been destroyed. Children can not reach the school house in bad weather without wading through mud and water.

All officers have resigned except the village clerk, who receives fees for acting as local registrar of vital statistics. Recently, however, the clerk has removed to another town five miles away. Such money as remains in the village treasury is insufficient to pay existing debts, and without proper officials it can not be appropriated for any other purpose. Lack of funds has kept the village without a health officer and efforts of the State Department of Health to persuade some resident to act as health officer without salary have been unsuccessful.

Scarlet fever has been prevalent since October in the village and surrounding area of the township. In the absence of a health officer, cases in the village have been left unquarantined and persons in the township have refused to observe quarantine while those in the village remained at large. The disease spread rapidly, more than 40 cases having occurred in less than three months.

Six families in the township outside the village had 27 cases in this period according to township officials. Only four of the six residences were quarantined. One of the township trustees (who constitute the township board of health) had four cases in his home, without quarantine or fumigation. A brother of another trustee had 11 cases in his residence, also without quarantine or fumigation. The township health officer who is also clerk of the township trustees, has been negligent in investigating reported cases, apparently feeling it is not his duty to do so without instructions from the trustees or a physician. He claims that his salary is inadequate and that he should receive extra compensation for making investigations and for fumigation.

In the village five families in less than three months had 16 cases. None was quarantined and many persons have been exposed. The Department investigator endeavored to enlist one of the men of the village to serve as health officer, but none was willing to do so without pay. It was intimated that quarantine regulations could not be enforced without the employment of guards and the making of arrests. Because of

the fact that no health officer could be installed, the cases of scarlet fever in the village remained unquarantined when the investigator left. Insuructions were given to the township health officer to enforce the law strictly outside the village.

Nearby towns are alarmed over the situation and one requested permission to quarantine against the village in question. Authority to do this was refused, but permission was given the health officer to deport from his town any persons known to have scarlet fever in the home or to have been exposed recently.

* * *

Child Hygiene Needed in Rural Districts

People are often inclined to think that it is only in the crowded cities that a great need for constructive work in child hygiene exists. Almost every study that is made, however, demonstrates that extremely bad conditions are very frequently to be found in rural sections — and not in "backwoods" rural sections alone, but in the more prosperous, enlightened localities as well.

A recent example of such a situation is furnished in a report of the Federal Children's Bureau, the first of a series of reports on child hygiene work in rural sections. It tells of a study of a Kansas county where the level of prosperity is high, no home is more than twenty miles from a physician, telephones are numerous and roads are good.

Even under these favorable conditions, however, two-thirds of the mothers had no medical care before their children were born; more than one-third had no visit from the physician after the child was born; four-fifths of the women, farmers' wives, had to work for large farm crews until very near the time of confinement. Although the infant mortality rate was found to be fairly low in the county, it could be brought still lower by the provision of standard medical and nursing care, according to the plan proposed by the Children's Bureau.

* * *

"Hooverizing" the Public Health

America is engaged in raising huge war funds. She has financed two enormous Liberty Loans and a third is near at hand. She has provided liberally for the Red Cross and for war philanthropies of many kind, and is willingly awaiting further calls.

The people are denying themselves many former extravagances to further the work of making democracy supreme in the world. Conservation is the keynote of civilian life.

All this accentuates figures which are presented from time to time to show the ways in which we waste our substance. Not the least

of these wasteful drains upon the national wealth is that of preventable diseases and postponable deaths.

Prof. Irving Fisher has estimated that the United States loses each year over a billion dollars on preventable or postponable deaths, another half-billion on doctors' fees, medicine and nursing for needless illness and still another half-billion on time and wages lost because of such illness.

In other words, development of public health work to the point where the ideal result of wiping out all preventable disease and deaths could be achieved, would in one year produce a saving that would pay off the first Liberty Loan.

In a practical way, every improvement in public health work which brings us nearer to this ideal, means the saving of a certain share of this \$2,000,000,000.

War-time is, above all other times, the time when our efforts in preserving the health of the people should be pushed to the fullest extent. It is the patriotic duty of every government — local, state or national — provide every dollar possible for this cause.

As a Southern physician, Dr. Joseph C. Bloodgood, said in a recent address, "it would appear feasible to urge the different states to greatly increase all public health activities and appropriations and, if necessary, increase the personnel. If the public health officials in this country had sufficient men and means, the reduction in the number of communicable diseases in this country would be so great that a number of physicians in practice would be released for army work, because of reduction of sickness in the civil population."

* * *

Look at the Figures; Then Go Ahead

Beginning this month, the Division of Communicable Diseases of the State Department will include in its monthly report, as published in this magazine, tables giving a more complete statement than heretofore of the incidence of notifiable diseases in Ohio.

From the table giving statistics on all reportable diseases for the preceding month, with appropriate comparisons with previous years, any health officer can get valuable suggestions as to work which needs his attention.

From the city table, with its figures for ten leading preventable diseases, every city health officer can get further important data to guide him in his work. By looking at the statistics for his own city and comparing them with those for other cities and for the state at large, the health officer can see wherein his work in disease prevention has been weak and can take steps to strengthen it in future.

When it is remembered that these ten preventable diseases killed nearly 15,000 Ohioans in 1916, the importance of adequate efforts to conquer them will be recognized. Such efforts can be carried out with the greatest efficiency only when accurate information is at hand as to just what the situation is.

The 14,441 deaths which these preventable diseases caused in the state in 1916 were divided as follows: diphtheria 621, measles 781, meningitis (epidemic cerebro-spinal) 58, poliomyelitis (acute infectious) 124, pneumonia (acute lobar) 4,359, scarlet fever 210, smallpox 4, tuberculosis (all forms) 6,838, typhoid fever 772, whooping cough 674.

The reductions in these total which are easily possible depend largely upon the grasp which the local health authorities of the state have of the situation and upon the efforts which they exert to improve conditions.

* * *

Army Calls Another Man from Department

Again the nation has called and again the JOURNAL records the departure of one of the members of the Department staff to

take service in the army of the United States.

E. I. Roberts, assistant engineer in the Division of Sanitary Engineering, has enlisted in the sanitary corps. He has been granted the customary leave of absence for the period of the war.

His co-workers, through these columns, congratulate him and bid him God-speed.

Next Month's Issue

of the OHIO PUBLIC HEALTH JOURNAL, due to appear shortly before the opening of the "Children's Year," will be devoted largely to matters of child hygiene.

Dr. FRANCES M. HOLLINGSHEAD, in charge of child hygiene work of the State Department of Health and of the Ohio Council of National Defense, will discuss the state-wide activities of these two interrelated agencies.

Dr. R. A. BOLT, chief of Cleveland's bureau of child hygiene, will have an article on "The Organization of a Municipal Bureau of Child Hygiene."

Miss HELENA R. STEWART, director of nursing service in the State Department of Health, will deal with the relations of the public health nurse to child hygiene activities.

Work being done by the several city bureaus of child hygiene in the state will be outlined, and various other phases of the subject will receive attention.

**CHILDREN'S YEAR OPENS APRIL 6; OHIO'S
QUOTA OF LIVES TO BE SAVED IS 4,510.**

Saving America's Babies

A War Measure for the United States — To Be Carried Out During Our Second Year of the Conflict. Ohio Ready to Do Her Share in Preserving From Unnecessary Death the Thousands of Children Needed to Build Up the Next Generation.

THE second year of the war for the United States, opening April 6, is to be devoted to saving the lives of babies, according to plans of the Federal Children's Bureau. A year's campaign to reduce the heavy infant mortality is planned, under the direction of the Children's Bureau and of the Women's Committee of the Council of National Defense. It will be carried into the states through the women's committees of the various state defense councils.

The co-operation of the Division of Child Hygiene of the Ohio State Department of Health in this program as broadly outlined is assured, as the Federal plan coincides in most respects with work already begun in Ohio. The Federal program will be knit up thoroughly with the state program in Ohio through the fact that Dr. Frances M. Hollingshead, director of the Division of Child Hygiene of the State Department of Health, is also chairman of child hygiene, health and recreation of the women's committee of the Council of National Defense, which is to act as the Federal agent in the state.

Half Baby Deaths Preventable

The first aim of the nation-wide campaign will be to obtain public protection for maternity and infancy. Public health authorities

agree that one-half the annual total of 300,000 deaths of children under five years old is preventable. They also consider that the larger proportion of the 15,000 mothers who died last year in bringing their children into the world died needlessly.

To save a certain definite proportion of these lives, with a definite quota, based on population, assigned to each state, is the underlying object of the "Children's Drive." It is believed that 100,000 deaths can be prevented this year, despite war's depletions in the ranks of physicians and nurses. Ohio's quota has been set at 4,510, which represents a reduction of about one-third in the state's baby deaths.

Methods Outlined

The methods to be followed will be those whose efficacy has been demonstrated in child welfare work in this and other countries. Briefly stated, these are as follows:

1. Registration of births, so that there may be an immediate record of every child born; nursing and medical care may be provided wherever family income does not permit its being obtained independently.

2. For every mother, prenatal care, necessary care of doctor and public nurse at confinement and after care.

3. Children's conferences where well babies can be taken periodically to be weighed and examined, and clinics where sick children may be given medical advice.

4. Organization of state and city bureaus or divisions of child hygiene.

5. Guarding of the milk supply, that every child may have his quota of clean, pure milk.

6. An income making possible decent living standards.

Some Machinery Ready Here

In Ohio, of course, and in a few other states, state work in child hygiene is already organized. In this state more or less of the machinery outlined in the preceding statement of methods is already provided as a part of the state's public health equipment, except in the case of the sixth method listed.

The first step in the "Children's Drive" will be a nation-wide weighing and measuring of children of pre-school age, designed to provide in a simple way data indicating the general physical condition of this group of children. No such extensive work among pre-school children has ever been done, and the widespread test will provide valuable data which is unavailable now. Tests to be made will be very simple, so that they may be applied by the parent if it is not practicable to take the child to an examining station.

The Record Cards

Record cards will be arranged in duplicate so that one-half may be retained by the parent and the other filed as a record from which statistics will be tabulated at the conclusion of the tests. The record card will show physical stand-

ards for children of given ages, and any marked divergence from this standard will serve as a warning to the parent that the child may need medical consideration.

Weighing and measuring the nation's babies will begin on April 6, and it is the intention of the Washington bureau that it be completed throughout the country by June 6. It is suggested that, if a Baby Week celebration is desired this year, it be held during the last six days of this period — from June 1 to 6. Such celebrations as are held, the Children's Bureau recommends, should emphasize the need for public health nurses and for protection of young infants against the dangers of summer heat.

What England Did

"One of the most remarkable developments of the war," declared a recent statement of the Children's Bureau, "a victory not heralded on front pages, yet which in time to come will be noted by all students of human welfare, is the saving of infant life in England during the second year of the war. The report of the chief medical officer of the Local Government Board, Sir Arthur Newsholme, published in 1917, shows for one sanitary district after another throughout England and Wales the number of babies who died before the war, those who died the first year of the war and the deaths for the second year of the war, 1916.

"It is startling to turn over the pages of this report and to see that the general social confusion of the first year of the war resulted in a large increase in the number of babies who died. But in the second year of the war, when the Local Government Board was enabled to grant financial aid to the

various sanitary districts and to secure co-operation in its policy of health visitors for every mother and baby, of health centers for consultation, of hospital care for sick mothers and babies, the rate went down not only far below the rate for the year before, but far below the rate previous to the war.

An Unparalleled Record

"This record of lifesaving in the midst of the strain of war, by means so simple and so at command, is, we believe, entirely without parallel.

"Although the United States now lacks the machinery for such Federal aid as England was enabled to grant to local work, it has power enough locally to make a very creditable showing, and, it may be

hoped, to pave the way for such governmental provision as will enable the United States to show the even greater salvage which its unexhausted condition makes possible.

"Again, why should the United States, especially the newer rural states, be satisfied with a less favorable infant mortality rate than that which New Zealand can show? The New Zealand rate has steadily gone down, notwithstanding the war, and it is now almost precisely half the rate for the registration area of the United States; that is, in New Zealand one baby in twenty dies, while in the United States one baby in ten dies. The most favorable state rate in the registration area is 70, that of Minnesota. Why should Minnesota not enter the race with New Zealand?"

The Smallpox Situation and Ohio's Local Health Organization

ON FEBRUARY 14 the following telegram was received at the office of the State Department of Health, from the mayor of a small town in Southern Ohio.

An epidemic of smallpox broken out in _____, Ohio. School closed. Ask that you take charge of same. Cannot cope with situation.

Mayor.

Upon investigation it was found that the town referred to has a population of 560 people. The health officer was appointed on January 18, 1918. He is the village marshal and receives for his services as health officer the sum of \$4 per annum. He was recommended for appointment as health officer

by five residents of the town whose occupations are given as "saloonist, carpenter, contractor and builder, motorman and teamster." There is no evidence that he possesses any knowledge as to the duties of a health officer more than would be expected of any citizen of the village picked up at random on the streets.

When smallpox appeared in the village, it had no means of protection, no machinery for quarantining the cases, finding and vaccinating the contacts, providing for general vaccination and the many other necessary procedures, except this man who is paid \$4 a year! When the situation was put up to the mayor, the only thing he

could do was to appeal to the State Department of Health.

Department Anxious to Aid

The State Department of Health is anxious to help this village or any other civil division in Ohio which needs help. It will send a man to this village just as soon as possible to organize some sort of local machinery to take care of the situation.

The Division of Communicable Diseases of the State Department of Health has available the director and his assistant, both physicians. Another assistant is provided by existing appropriations but after four months' diligent search no one even approximately qualified to do the work can be found who is willing to accept the place at the salary of \$1500 per annum provided by law. Upon these two physicians, therefore, falls the duty of answering calls such as that represented by the telegram quoted above.

There are in the State of Ohio 2,141 primary health districts. Of these not more than twenty pay sufficient salary to command the whole time of a well trained and competent man. Not more than 150, at the outside, have health officers who are even approximately efficient. In practically 2,000 of the health districts of the state conditions are little if any better than those referred to above. In these 2,000 districts the appearance of any serious situation results in an immediate breakdown of the local health machinery and a call on the state for assistance. To meet these calls the state has provided the force of three physicians.

Health Officer's Real Function

The smallpox situation only accentuates a condition long existent

and crying for relief. In any community smallpox should be the least of the problems of the health officer. By intelligent and active work it can readily be controlled. The other communicable diseases, typhoid fever, diphtheria, scarlet fever, measles and whooping cough should receive a considerable part of his time, but even these are not the major part of his work. The work of a good health officer should be directed to preventing things before they happen, to building up the general sanitation of the community and the general health of the people so that he will not need to devote much time to the control of cases of disease which actually do occur. That this can be done has been amply demonstrated.

Health protection in any true sense is not available to a large part of the population of Ohio. It cannot be made available by appointing the village marshal as health officer at a salary of \$4 per year. It cannot be made available by the present State Department of Health, with an appropriation of little more than two cents per capita for the state. It can be had only by the formation of health districts sufficiently large to provide for the services of a competent health officer at a reasonable salary and providing back of the local organization a state organization sufficiently extensive to supervise the health administration of 5,000,000 people.

The autumn months, when people are spending much time outdoors, are known as healthful ones. Not until winter, when windows go down and people shut themselves indoors, it has been observed, do colds and grip become prevalent.

Save Fuel and Save Health

By Dr. Emery R. Hayhurst, Division of Industrial Hygiene, Ohio State Department of Health

1. Save fuel by avoiding the heating of rooms not used and by heating halls, stairways and similar parts of the building at a much less degree than the occupied quarters.

2. Save health by avoiding overheating (undoubtedly more colds and sickness are due to this than to underheating) and by avoiding the "temperature shocks" which take place in going from one extreme to another, as from zero weather out-of-doors to 70 degrees indoors. In this latter case moderately heated halls, etc., make the transition gradual and less likely to cause sickness.

3. Save fuel by avoiding heating of bedrooms except where occupied by the aged or the sick. Heated bedrooms are not needed for healthy adults, children or infants. Provide enough covers.

4. Save health by getting, at night, the invigorating properties of cool, fresh atmosphere, even though you may spend all of the day out-of-doors.

5. Save fuel and get more heat by seeing that the ordinary gas-grates and gas-plates burn only with a colorless or bluish flame, not a yellow carbon flame. Usually, adjusting the air mixer as by lifting the gas distributor an inch or so higher above the nozzle in the case of grates of ordinary type, will suffice.

6. Save fuel, in case of furnace heating, by taking air out of the basement, passing it through the furnace, then through the house back to the basement. This is because it is not so expensive to heat

partially warm air as to take the straight cold outside air.

7. Do not fear sickness from the use of air just described since in practically all ordinary homes there is more than enough in-leakage of fresh air and out-leakage of contaminated air to prevent sickness.

8. Save fuel in stoves or furnaces by use of small pieces of coal, or even dust, well moistened and placed to one side, or even below, the fire already present.

9. Save health and promote cleanliness by avoiding soot and smoke coming in windows and doors. This can be done by using fuel as just described.

10. Save heat in a room where possible by using two heating units placed at opposite sides of the room. Thus, a gas-grate on one side and the furnace register on the other can be operated together much more economically than either one alone in the maintenance of a comfortable temperature.

11. Save health by having the heat as uniform as possible in a room. "Cold on one side and hot on the other" promotes sickness.

12. Save fuel by the use of overhead gas-plates, some types of which on the market are very efficient and furnish some light as well. Use only those types which are guaranteed to combust the gas completely.

13. Save health in quarters which cannot be kept warm by dressing more warmly.

14. Save heat by pulling down window shades, particularly at

night. On windy days keep the door to each room closed as, the smaller the space, the fewer air currents present to remove the heat.

15. Save much heat by weather-stripping doors and felt-stripping loose window frames, baseboards and perhaps window sashes. Test these leakage points with your bare hands when the wind is blowing.

16. Save heat by circulating the air *in* the house, *not out* of it. You can depend upon leakage and porous construction, even of modern brick or stone premises, for all fresh air needed in living rooms during the day.

17. Save fuel and promote health by moistening the air on cold days where possible. Atomizers placed in the furnace, or water, which must be heated enough to boil, will come nearest to doing this. Moistened air feels comfortable at 65 degrees in zero weather when it requires 80 degrees for dry air—a big saving in fuel.

18. Experiments tend to show that gas-grate heat produces practically enough moisture of itself, in this respect being much different from dry heat produced by furnaces, hot air or steam systems.

19. Cold walls and windows will deposit moisture and perhaps frost, no matter what the kind of heat. The only remedy is to have enough heat to keep surfaces warm or to have double walls and storm windows. But dripping or frosted walls are not dangerous to health.

20. Save fuel in gas furnaces on cold days by having all burners on at the same time, each turned down low, instead of trying to make one burner, turned on full, supply the heat wanted.

21. Save fuel in hot-air fur-

naces by getting the heat *out* of the furnace. If you have an electric fan, set it in, or in front of, the "cold" air intake opening of the furnace and run it for an hour or two at a time. The result will be surprising.

22. Mental work is best performed in a temperature ranging between 70 degrees and 75 degrees, evenly distributed and with but slight air movement. Physical work is best done in a temperature between 60 degrees and 68 degrees with a distinctly perceptible air movement. Experiments have shown 37 per cent more physical work done at 68 degrees than at 86 degrees.

23. Observe the above pointers and you will cut your fuel bills in half and unquestionably enjoy better health.

DEPARTMENT OPPOSED TO URBAN HOG-KEEPING

Keeping of hogs in city lots was discouraged by the State Department of Health in a recent letter to Strasburg residents who were considering such a project. The movement to let down the regulations which most cities have against urban pigpens has been pushed in many localities recently as a food conservation measure.

The solution the Department recommended to the Strasburg persons was that all who wished to raise hogs this summer should join together and rent a tract of farm land at the edge of town, and turn all the porkers loose there after each had been tagged with his owner's name. Collective arrangements for the gathering of garbage or purchase of other feed for the animals were suggested by the Department.

Scope of Ohio's Health Insurance Investigation Outlined

THE accompanying tentative outline of the scope of the investigation into the need for sickness insurance in Ohio, now being conducted by the Ohio Health and Old Age Insurance Commission, will be of interest to public health workers of the state, touching as it does upon public health matters at several points.

The outline, prepared by John Lapp, director of the survey, appeared in the February number of the *Ohio State Medical Journal*.

The present investigation is to cover a year, the commission being instructed to report to the next session of the legislature, which convenes early in 1919.

"Notwithstanding that much of the ground has been covered by the previous investigations in other states, it is the plan to make the inquiry with respect to Ohio, so that recommendations that are made may apply directly to the conditions found here," explains Herbert Mengert, secretary of the commission.

Mr. Lapp's outline follows:

Health Conditions

I. Detailed study of the health and mortality statistics of Ohio to determine the exact conditions. This will involve a study of separate diseases and their prevalence; the occupational mortality; city and country health conditions; nationality and disease for selected groups; occupational disease reports; infant mortality, etc.

II. The economic loss by sickness and preventable deaths.

- (a) Loss to individual workers.
- (b) Loss to employers.
- (c) Loss to the public.

This will involve a careful estimate based upon the best evidence that can be gathered from all the investigations that have been made

III. Who is to blame for sickness?

- (a) The public's share.
- (b) The employer's share.
- (c) The individual's share.

In this study it should be made clear what proportion of preventable sickness and death is to be charged against the various factors. For instance, typhoid fever in a city is generally chargeable to the city rather than to the individual.

IV. Who bears the burden of sickness?

The extent to which insurance is now provided to distribute the burden. This investigation should include the part played by employees, employers, fraternal organizations, private insurance companies and public institutions. An exhaustive investigation of health insurance companies' work is necessary.

V. Who should bear the burden?

Conclusions to be drawn from the previous studies as to the part to be borne by the three factors—public, employers and employees.

VI. Sickness and destitution.

What part of destitution is caused by sickness and what is the extent of sickness caused by destitution? In this study the co-opera-

tion of the charity organization societies and many philanthropic societies can be enlisted, besides the public officials having to do with poor relief.

VII. If possible the records of the conscription boards should be analyzed to find out what is the matter with the large cross section of our population between the ages of 21 and 30.

VIII. A study of the reports on occupational diseases and the efficiency of the law should be made.

IX. Special problems of industry to be studied.

(a) Defective eyesight.

(b) Ventilation (New York Report).

(c) Posture at work (American Posture League).

(d) Factory sanitation laws and their enforcement.

(e) Special occupational hazards (Hayhurst's Report).

(f) Health supervision in factories.

X. Special problems of disease prevention to be studied.

(a) Health supervision of schools, including dentistry and optometry.

(b) Sanitary laws.

(c) Dispensary facilities.

(d) Hospital facilities.

(e) Special institutions for sick and defectives.

(f) Physical education.

(g) Medical education.

(h) Means of popularizing practical education in hygiene.

(i) Infections and contagious disease prevention.

(j) The public health organization of Ohio.

Sickness Insurance

I. Different types.

(a) Voluntary.

(b) Subsidized.

(c) Compulsory public.

2. Amount and kind of aid.

(a) Money aid.

(b) Medical aid.

(c) Family assistance.

III. Methods of organizing medical care.

IV. Administrative provisions.

A detailed study of all plans of organizing the system.

V. Disability insurance.

Relationship to old age insurance or pensions.

VI. Problem of malingering.

VII. Detailed study of industrial insurance and similar forms of relief.

Old Age Insurance and Pensions

I. The problem of old age.

II. Amount of old age dependency.

(a) Public institutions and almshouses.

(b) Private old folks' homes.

(c) Other organized relief.

III. Estimate amount of old age dependency not aided in an organized way.

IV. Pensions vs. Insurance.

V. Different types.

(a) Voluntary.

(b) Subsidized.

(c) Compulsory contributory.

(d) Straight pensions.

(e) Mass. Savings Bank Insurance.

VI. Existing pensions in Ohio.

(a) Employers' funds.

(b) Employes' funds.

(c) Soldiers.

(d) Mothers.

(e) Blind.

(f) Teachers.

(g) Police.

(h) Firemen.

Special Studies of Plans, Etc.

(a) Study of the operation of the workmen's compensation system in Ohio. Also of special fea-

tures of other compensation systems.

(b) Distribution of excess cost of accidents (the merit system) with a view to like distribution of sickness burden in industry.

(c) Study of plans for distributing excess cost of sickness upon delinquent cities and counties (the merit plan applied to local governments).

(d) Study of typical systems of insurance against sickness, old age, invalidity, etc., in foreign countries.

(e) The relation of the problem to the conditions created by the war.

(f) The vocational education or re-education of the handicapped. (Federal board will help.)

Special Features

(a) Simple statement of the fundamental principles of insurance as a distribution of burdens.

(b) Brief review of history of social insurance.

Foreign.

American.

(c) Study of ways and means in Ohio. A close analysis of the ability of the state and local units to bear the burden of sickness and old age insurance.

Methods of Work

(a) Exhaustive investigation of the literature of the subject. Digest the arguments on each controverted point for the use of the members of the commission.

(b) Secure co-operation in special work of such of the following organizations as will help.

U. S. Health Service.

U. S. Bureau for Vocational Education.

American Medical Association.

American Association for Labor Legislation.

State Health Commissions.

State Superintendent of Public Instruction.

Industrial Board.

American Posture League.

(c) Submit digests to members of the commission as rapidly as prepared.

(d) Give publicity to significant facts disclosed from time to time.

(e) Formulate tentative outlines with alternative propositions to be submitted at the public hearings.

(f) Submit such outlines to persons requested to come before the commission so that they may be prepared to give us what we want to know.

(g) Draft tentative bills on the basis of findings and the hearings thereon.

(h) Present in the briefest possible form the report of the commission.

CHILD HYGIENE EXPERT SEES CLEVELAND WORK

A compliment to the efficiency of Cleveland's work in child hygiene was paid in February, when Dr. F. Truby King, noted "baby-saving" expert from New Zealand, spent in the Sixth City several days of a three weeks' stay in the United States. He investigated the work being done by the Cleveland health department's child hygiene division, under the leadership of Dr. Richard A. Bolt, and delivered several addresses.

Dr. King is widely known as the man who has given New Zealand the world's lowest infant death rate. Only one baby in twenty dies in New Zealand; the figure in the United States is one in ten. Dr. King has been the head of the New

Zealand Society for the Health of Women and Children. He is in this country enroute to England, where he is to undertake a campaign for the saving of British babies' lives.

His visit at this time, the Federal Children's Bureau points out, gives added emphasis to the importance of the nation-wide baby-saving campaign which the state and national Defense Councils and the Children's Bureau will open April 6.

HEALTH DEPARTMENT LOSES ITS MEMBERS ON EMBALMING BOARD

The change from the former State Board of Health to the new State Department of Health has resulted in a reduction of the personnel of the State Board of Embalming Examiners from five to three members.

A recent opinion of the Attorney General established this fact by declaring inoperative those provisions of the embalming board law which provide that the president and secretary of the State Board of Health shall be members of the embalming board.

After reviewing the legislation which has created the office of Commissioner of Health, as the executive head of the Department of Health, with an advisory Public Health Council of five members, the opinion continues:

"It cannot, therefore, be considered that any of the members of the present State Department of Health perform the same duties or occupy the same positions as did the president and secretary of the State Board of Health at this time and there were no president and secretary of the State Board of Health on July 2, 1917, when said

embalming board sections went into effect, for the amended sections 1232, 1233 and 1234 [the State Department of Health law], above quoted, were in effect prior to that time.

"I therefore advise you that the present State Board of Embalming Examiners consists of three members only, two of which, as provided by Section 1338, shall constitute a quorum to do business."

PENNSYLVANIA JUDGE LEVIES FINE ON OHIO QUARANTINE VIOLATOR

The strong arm of the law may reach out clear across a state line and grasp the quarantine-breaker.

This was demonstrated last month, when the Ohio State Department of Health received the following self-explanatory letter from the Pennsylvania Department of Health:

It gives us pleasure to advise you that William Schrectengast, who escaped from Akron, Ohio, subsequent to the diagnosis of smallpox and prior to the arrival of the health officer to establish quarantine, has completed the legal quarantine period in this commonwealth and was prosecuted by direction of the commissioner of health, pleading guilty on Saturday before Justice Woodring, of Bellefontaine, to violation of quarantine, and paid \$100 fine with \$18 costs.

Several cases have recently come to light in which violators of quarantines have been severely punished in Ohio. In Lorain a few weeks ago Thomas Miller was fined \$25 and costs for entering a house which was under quarantine for smallpox. This is the second such fine levied in Lorain.

Certain other localities, however, have been notoriously lax in enforcing quarantine regulations. To such laxity much of the present smallpox prevalence is attributed.

TOLEDO HEALTH ACTIVITIES IN 1917

The annual report for 1917 of the Toledo department of public welfare contained the following sections relative to the work of the department's division of health:

Health Division

The division of health has been conducted along practical lines. Fortunately, the city has escaped serious epidemic, for which all are grateful. There are many avenues for improvement, the most important of which is the abandoning of surface wells, which, it has been shown beyond doubt, are the cause of much of the typhoid fever. This is a hard problem to solve because of the prevailing idea that, since the wells have been in use for very many years, they cannot be charged with being disease producers. The element of accommodation to owners and neighbors is advanced, and other personal claims offered, which make it difficult to eliminate the wells. Toledo stands nearly alone in their use, and this ought not to be.

Attempt was made, through the division of health, to eliminate the mosquito pest, with some success, but our people were not entirely satisfied. Time and effort alone will be needed to completely bring about results.

Isolation Hospital Inadequate

There is great need for an up-to-date contagious hospital, the one now in use being far from modern in essentials. When our citizens—men, women, and children—are quarantined, absent from the care usually had at home, the city should provide the most humane treatment. Plans were started, but the

means not being in sight it was not possible to complete them. The sooner steps are taken to have a new hospital, the better.

University Aid

A few additions were made to the staff during the year, through the appropriation for the Toledo University, the most notable of which were those of instructor in industrial hygiene and in health education, and from which good results are anticipated. These officers are named and paid by the university trustees.

Recommends Health Board

It is not out of place to renew the recommendation that the division might well be placed in control of a board of three, who, without compensation, could pass on health questions as they arise. The Ohio statutes are full of references to the duties of boards of health, and the question has often been raised as to whether the director of welfare or the commissioner of health was such board in the eyes of the law. To meet exigencies the board could adopt preventive measures, while at present it is argued that council must pass ordinances, and valuable time is lost in the routine required to secure legislation. The suggestion is offered for what it is worth; experience has developed the utility of a board.

Incorrect standing and walking are declared to be as important a cause as any other of flat feet and fallen arches. The proper posture in walking and standing is to toe straight ahead or slightly inward, instead of outward.

Public Health Administration in Russia*

RUSSIA, with about 180,000,000 inhabitants, 85 per cent of whom live in the rural districts, has developed a combined system of free medical care and health protection for her rural population to a point which is unique and of which we are only beginning to dream. This is the statement of Prof. C. E. A. Winslow, professor of public health at the Yale Medical School, and member of the Red Cross Mission to Russia in 1917, who in *Public Health Reports*, Dec. 28, 1917, gives the history and many details of the public health administration in that country which he studied in the past year during the revolution.

Beginnings of the System

Previous to the creation of the zemstvos in 1864 by Alexander II, hospitals had been established and medicine had developed chiefly in the cities. Thirty-two provincial hospitals with 6,200 beds, and 303 district hospitals with 5,100 beds were turned over to the zemstvos, all in poor condition and badly mismanaged, without adequate provisions for isolation or care of communicable diseases. An effort was begun to give medical service free to the rural inhabitants, and by 1870 the zemstvos had arranged a system of fixed medical districts, each provided with a small hospital and a qualified physician. By 1890 there were 1,422 Zemstvo medical districts with 1,068 hospitals of 26,571 beds and 414 dispensaries, and the number of their physicians had increased from 756 to 1,805,

and the number of non-medical assistants from 2,794 to 6,788. The tendency has been to make all hospital and dispensary treatment free, the care of the sick being recognized by the zemstvos as a natural duty of society rather than an act of charity. Thus the public care of patients developed first and preventive work developed as an offshoot, both being now closely related.

Moscow's Organization

The province of Moscow is said to have the most highly developed organization for the promotion of zemstvo medicine. It supports a hospital for every 10,000 to 15,000 inhabitants, each with from twenty to sixty beds, an average of two physicians, two medical assistants and four sister nurses. Each of the larger hospitals assigns a certain number of beds for general use, for communicable diseases and for maternity cases; each has its dispensary, and all medicines, as well as medical care, are given free; home visits are made only in serious cases. Financial aid is often given to women in child-birth and to invalids unable to go to the hospital. Separate provision is made for mental cases.

For prevention, Moscow province is divided into thirteen sanitary districts, with full time medical supervisors, and assistants, and there is a central statistical division, a laboratory and a vaccine institute. There is also a sanitary council for each district and one for the whole province, with district physicians,

* Abstract reprinted from the *Journal of the American Medical Association*.

factory physicians and others, all under the control of the provincial and district zemstvo assemblies, working under a sanitary code which was in force before the revolution.

In a Rural District

The province of Saratov is given as an example of a more rural district, where, in 1911, the provincial zemstvo maintained a general hospital of 200 beds and a psychiatric hospital of 460 beds for a population of something over 3,000,000. The district zemstvos maintained 123 medical districts with seventy-eight hospitals and 1,106 beds or one hospital to 2,525 persons. Each district had its own physician, with feldschers and other medical helpers at fifty-five other points. Clinic cases to the number of 525.9 and resident cases numbering 9.1 per thousand of population were treated, and 33.2 per cent of the provincial and 31.6 per cent of the district budgets were appropriated for medicinal and sanitary purposes, amounting to 50 copecks per capita. The regular zemstvo physician had sanitary supervision of his district, to combat epidemics, inspect schools and educate the public in health matters; there was also a sanitary supervisor with laboratory equipment for simple chemical and bacteriologic examinations, and a bureau of vital statistics with power to employ emergency workers in epidemics, etc.

Winslow says that not much progress has been made in general milk supervision, though there are infant welfare stations and milk distribution to a certain extent. Infant mortality has not been reduced much, if any, since statistics have been available, except in some of

the western provinces, the chief reason for this being poverty and ignorance.

High Standards of Work

The principal developments of Russian public health have been along medical and bacteriologic lines, in the control of the more acute communicable diseases and in the field of vital statistics. The statistical bureaus of the central council of public health and of the larger cities are better equipped with funds and with highly trained specialists than our own. The bacteriologic and chemical laboratories are also highly developed and in charge of high grade men with leisure and inclination for productive research. Sanitary engineering is somewhat neglected, but when the time comes its development will be fruitful.

The most important future development of public health in Russia, as elsewhere, Winslow believes, must be along educational lines in venereal diseases, tuberculosis and infant mortality, and the largest single task is the last. The great strategic point in the Russian health situation is the remarkable development of social medicine along curative lines and the close connection between curative and preventive work. The opportunity for developing educational preventive work in connection with such a system is practically unlimited.

"Hygiene is the art of preserving health; that is, of obtaining the most perfect action of body and mind during as long a period as is consistent with the laws of health." — Edmund Alexander Parkes.

APPROPRIATIONS FOR CITY HEALTH DEPARTMENTS

Two years ago, Dr. William C. Woodward, health officer of the District of Columbia, said:

In order to make facts pertaining to health contribute most largely to human happiness, two things are necessary: first, to establish such facts and to correlate them, so that we may understand their full significance and the underlying principles. Second, to weave those facts into the lives of the people.

Public hygiene, so far as it can be contrasted with the hygiene of the individual, is that which is practiced by the government for its citizens. It consists, as one writer has expressed it, chiefly in efforts by the government to maintain a wholesome environment in which to live, including good outdoor air, clean streets, pure water, good sewers, quarantine and legal regulations concerning houses, schools, prisons, hospitals and other public institutions, foods sold in markets, and conditions of employment. It is chiefly useful in preventing acute or infectious maladies, accidents and occupational diseases.

At the present time, if never before, preventive medicine makes its appeal not merely on the ground of human happiness, but quite as well because of the pressing need of conserving human efficiency. The world needs all the human forces that can be mobilized. There is a growing recognition that public hygiene pays — that it can accomplish results of obvious importance. It has become the duty of the government not merely to teach the community, but also to enforce sanitary laws. If men cannot be made healthy by compulsion, they can at least be made to conform to such rules of conduct as to permit their

neighbors to be healthy. Public health is not something that grows and brings forth fruits without special attention from any one. We must come to understand that the benefits of hygiene cannot be gathered without cost. We recall an instance in which a railroad was forced by a community to construct a viaduct involving an interest charge of \$2,000 a year to prevent one needless death; yet the aldermen of the same community were spending only \$150 to prevent fifty deaths.

What efforts are being made to purchase public health? Surgeon Preble of the U. S. Public Health Service has lately summarized the expenditures of 330 cities in the central and eastern United States for public health work. It appears from his statistics that the average per capita expenditure varies fairly directly with the size of the community. Yet the average salary of the health officers of sixteen cities having a population between 100,000 and 300,00 is less than \$2,500 a year. The annual average per capita expenditure for the 330 communities cited by Preble is 27.2 cents, varying from 9 to 39 cents. If we accept as generally agreed that the expenditure of about 50 cents per capita is necessary for satisfactory public health activities, the average city in the group just referred to is expending only slightly more than half the amount that is considered reasonable for the control of health hazards. This is manifested by the results achieved. For the average expenditure of 27.2 cents, Preble found an average sanitary rating of only 66.7, out of a possible 100 per

cent. The larger cities, with an average expenditure of 39 cents, annually, get an average sanitary rating of 80.8 per cent. Hence he justly adds that under efficient management it might seem reasonable to expect that an expenditure of about 50 cents per capita annually would raise the sanitary rating of the group to a point above 90 and result in a marked reduction of sickness and a saving of lives, a worthy return on the investment. Perhaps broader public education in the science and accomplishments of preventive medicine and hygiene will help to make even smaller communities begin to realize that their health officials are too poorly paid—and consequently their health activities too poorly organized and administered. We propose to revert repeatedly to the contention that the sanitary status of a larger community in which menaces are varied is likely to remain low as long as the appropriations for its health department remain low so that efficiency cannot be purchased. Surely the chief of a public health establishment is as worthy of his hire as a chief of police or a fire department head.—*Journal of the American Medical Association.*

SMALLPOX PREVALENCE HIGH IN SEVERAL OTHER STATES BESIDES OHIO

Ohio is not alone in experiencing an unusual prevalence of smallpox. Reports to the United States Public Health Service for the month of December give these state totals: Kansas 519, Michigan 688, Minnesota 344, Maine 199, North Dakota 99, South Dakota 162, Maryland 52, Louisiana 97, Pennsylvania 70, West Virginia 96.

For November Kansas reported

384 cases, Colorado 117, Iowa 251, Maine 227, Mississippi 82, North Dakota 36, South Dakota 135, Alabama 44.

Weekly city reports show cases over the entire country during December and January, with the prevalence evidently highest in the sections comprised in the Mississippi basin. Kansas City, Mo., has had probably the highest prevalence among the larger cities. Its reports for four weeks of the five-week period from December 9 to January 12 (the report for December 23-29 is missing) total 530.

Other cities which show heavy case totals during the same period are Detroit, Fort Wayne, Grand Rapids, Kansas City, Kans., Minneapolis, Omaha, St. Louis, Des Moines, Indianapolis and Little Rock, Ark.

DISEASE NOTIFICATION MAY HAVE BEARING ON DRAFT CLASSIFICATION

An instance of the importance of reporting notifiable diseases, in accordance with the state law, has recently been furnished in an inquiry which came to the Division of Tuberculosis of the State Department of Health from Local Draft Board No. 5 of Franklin County.

The board wished to know if a report was on file with the department giving evidence that a certain resident of Canal Winchester, who was named, was a victim of tuberculosis. This man, the board explained, had applied for classification in Class 5, which constitutes entire exemption from draft, on the ground that he was in the last stages of tuberculosis. His physician furnished him with a certificate to the same effect.

Search of the records of the department failed to reveal such a report, and the draft board was so notified. The Canal Winchester health officer was asked for information about the case, and an explanation of the circumstances has been called for from the physician who certified to the man's alleged tuberculous condition and yet failed to make the report which the law requires.

ANNUAL REPORT SHOWS WHAT A COUNTY NURSE CAN DO IN ONE YEAR

The annual report of Mrs. Marjory Porter McCarthy, county nurse in Hamilton County, covering the year from November, 1916, to November, 1917, offers a clear picture of the great amount of good a county nurse can accomplish. Some details of the report are here presented for the information of counties which do not now employ nurses.

In her work among children, Mrs. McCarthy visited 20 schools, examined 1,928 school children and advised 1,614 school children. One hundred and five children were taken to eye clinics to have glasses fitted. Those taken to hospitals to have tonsils and adenoids removed numbered 109 and those taken to hospitals for other reasons numbered 28. Two children were sent to the State School for the Blind and four to orphanages.

Among adults visited by Mrs. McCarthy, 32 were sent to the Cincinnati municipal tuberculosis sanitarium, 30 to the Ohio State Sanatorium and nine to other hospitals.

Three cases were referred to the court of domestic relations, 26 to charitable organizations for material aid and eight families were

moved into better homes.

The nurse's home visits totaled 1,014 and her miscellaneous visits 908. Cases carried numbered 183, of which 102 were tuberculosis. Mrs. McCarthy made eight talks to mothers' clubs, aided 10 physicians in maternity cases and minor operations and assisted in the examination of 500 girls in a survey at the Convent of the Good Shepherd.

RECENT PROGRESS IN SOCIAL HYGIENE WORK IN VARIOUS SECTIONS

Governor Burnquist of Minnesota has appointed a social hygiene committee of 52 members, having for its purpose the control of venereal diseases, the enforcement of the laws with regard to prostitution, the education of the public in social hygiene and the rehabilitation of prostitutes.

The Minnesota state board of health was given power in recent legislation to make regulations for "the treatment, in hospitals and elsewhere, of persons suffering from communicable diseases; including all manner of venereal diseases and infection, the disinfection and quarantine of persons and places in case of such disease and the reporting of sickness and deaths therefrom."

A recent act of the New Jersey legislature makes it a misdemeanor for a person infected with a venereal disease to marry or to have illicit sexual relations.

Expert investigation in Chicago declared that smoke-filled air made the lungs susceptible to tuberculosis, pneumonia and bronchitis, and that it caused a high mortality among persons of 40 or 50 years.

Ohio Mortality Statistics for Month of October

Furnished by Department of State, Bureau of Vital Statistics,
Dr. J. E. Monger, State Registrar

NUMBER OF DEATHS AND MONTHLY DEATH RATE, PER 1,000 POPULATION, IN EACH COUNTY OF OHIO, FOR OCTOBER, 1917.

<i>County.</i>	<i>Number.</i>	<i>Rate.</i>	<i>County.</i>	<i>Number.</i>	<i>Rate.</i>
Adams	19	.8	Logan	31	1.0
Allen	61	1.1	Lorain	87	.9
Ashland	22	.9	Lucas	310	1.4
Ashtabula	44	.7	Mahoning	202	1.3
Athens	56	1.0	Madison	18	.9
Auglaize	26	.8	Marion	53	1.4
Belmont	106	1.2	Medina	24	1.0
Brown	21	.8	Meigs	28	1.1
Butler	83	1.0	Mercer	21	.8
Carroll	17	1.1	Miami	47	1.0
Champaign	24	.9	Monroe	15	.6
Clark	96	1.3	Montgomery	246	1.3
Clermont	35	1.2	Morgan	21	1.3
Clinton	23	1.0	Morrow	19	1.1
Columbiana	81	1.0	Muskingum	60	1.0
Coshocton	29	.9	Noble	26	1.4
Crawford	45	1.3	Ottawa	24	1.1
Cuyahoga	918	1.2	Paulding	16	.7
Darke	47	1.1	Perry	30	.8
Defiance	20	.8	Pickaway	27	1.0
Delaware	29	1.0	Pike	19	1.2
Erie	57	1.5	Portage	38	1.2
Fairfield	32	.7	Preble	25	1.0
Fayette	19	.9	Putnam	18	.6
Franklin	315	1.2	Richland	44	.9
Fulton	14	.6	Ross	47	1.2
Gallia	35	1.4	Sandusky	36	1.0
Geauga	13	.9	Scioto	77	1.4
Greene	34	1.1	Seneca	44	1.0
Guernsey	36	.7	Shelby	23	1.0
Hamilton	584	1.2	Stark	176	1.2
Hancock	30	.8	Summit	234	1.7
Hardin	30	1.0	Trumbull	75	1.4
Harrison	18	.9	Tuscarawas	58	1.0
Henry	6	.2	Union	27	1.2
Highland	31	1.1	Van Wert	19	.7
Hocking	24	1.0	Vinton	15	1.1
Holmes	14	.8	Warren	21	.9
Huron	49	1.4	Washington	49	1.1
Jackson	28	.9	Wayne	40	1.0
Jefferson	85	1.0	Williams	24	.9
Knox	25	.8	Wood	35	.8
Lake	30	1.3	Wyandot	25	1.2
Lawrence	38	1.0			
Licking	52	.8			
			Total	5,875	1.1

NUMBER OF DEATHS AND MONTHLY RATE PER 1,000 POPULATION,
IN EACH OF THE LARGEST THIRTY-SEVEN CITIES IN OHIO,
FOR OCTOBER, 1917.

<i>Cities.</i>	<i>Number.</i>	<i>Rate.</i>	<i>Cities.</i>	<i>Number.</i>	<i>Rate.</i>
Akron	166	1.9	Lorain	42	1.1
Alliance	20	1.0	Mansfield	25	1.1
Ashtabula	20	.9	Marietta	14	1.1
Bellaire	22	1.4	Marion	37	1.6
Canton	83	1.3	Massillon	16	.7
Cambridge	18	1.3	Middletown	19	1.2
Chillicothe	19	1.2	Newark	23	.7
Cincinnati	507	1.2	Norwood	14	.6
Cleveland	770	1.1	Piqua	26	1.8
Columbus	267	1.2	Portsmouth	38	1.4
Dayton	158	1.1	Sandusky	26	1.3
E. Liverpool	30	1.3	Steubenville	48	1.7
Elyria	17	.9	Springfield	70	1.3
Findlay	19	1.3	Tiffin	12	1.0
Ironton	16	1.1	Toledo	283	1.5
Hamilton	41	.9	Warren	18	1.4
Lakewood	22	1.4	Youngstown	152	1.4
Lancaster	18	1.1	Zanesville	33	1.2
Lima	42	1.3			

Public Health Nursing Service

Report for December, 1917

<i>City</i>	<i>Home Visits.</i>	<i>Other Visits.</i>	<i>Number of Patients Under Care.</i>	<i>Number of Nurses Employed.</i>
Ashtabula	75	60	75	1
Athens	45	32	68	1
Bucyrus	175	17	22	1
Cambridge	116	172	29	1
Canton	559	..	81	2
Cincinnati—Anti-Tuberculosis League.....	682	119	1,136	7
Cincinnati—V. N. A.	2,062	..	522	12
Circleville	140	5	42	1
Columbus—Anti-Tuberculosis League.....	1,195	..	931	5
Columbus—V. N. A. ....	..	..	683	11
Cuyahoga Falls	103	5	..	1
Dayton	4,014	..	1,405	15
Delaware	183	17	26	1
Elyria	100	24	31	1
Fremont	30	25	14	1
Greenfield	56	33	23	1
Greenville	275	7	17	1
Hamilton	30	127	139	1
Kenton	209	111	103	1
Lancaster	145	16	28	1
Lima	595	58	99	3
Lorain	172	..	29	1
Mansfield	209	29	45	1
Marion	174	23	53	1
Massillon	255	31	76	1
Norwalk	99	79	..	1
Piqua	104	59	40	1
Portsmouth	910	63	460	4

City	Home Visits.	Other Visits.	Number of Patients Under Care.	Number of Nurses Employed.
Ravenna	73	36	18	1
Shelby	225	17	39	1
Sidney	64	116	13	1
Springfield—City Health Department.....	188	10	127	1
Urbana	69	3	11	1
Xenia	106	44	25	1
Youngstown	1,860	13	339	9
Zanesville—Welfare Organization	79	21	47	1
Zanesville—Federation of Women's Clubs	91	16	27	1
Franklin County	15	22	29	1
Hamilton County	43	8	188	1
Lake County	27	38	18	1
Licking County	89	..	48	1
Trumbull County	87	73	139	1
Tuscarawas County.....	51	139	30	1
Totals	15,779	1,668	7,275	102

The 7,275 patients under care, except Dayton's 1,405, which are not listed by causes, were grouped as follows, according to the nature of their cases:

Communicable Diseases—	
Tuberculosis	2,894
All others	103
Maternity—	
Prenatal	219
Postnatal	189
Infants under two years—except eye.....	568
Eye—	
Infants under two years old	22
All others	41
Other Diseases—	
Medical	1,011
Surgical	511
Social Service	312
Total	5,870

CIRCUMSTANCES CAUSE MINOR CHANGE IN PLAN FOR MUNITIONS SURVEY

Original plans for the munition industrial survey, to be carried out by the division of industrial hygiene of the State Department of Health as a war measure this year, have been slightly modified as a result of conditions in the plant in which the initial work was to be done, with the co-operation of the owners, as outlined in the Ohio

Public Health Journal for December.

In the meantime preliminary work has been carried on in establishments in Columbus and vicinity.

The division of industrial hygiene is being assisted in the munitions survey by Dr. E. R. Hayhurst, acting as consultant to the division. Dr. Hayhurst was formerly director of this division and was in charge of the general industrial hygiene survey of the state made in 1915.

DEPARTMENTAL REPORTS BY DIVISIONS

DIVISION OF COMMUNICABLE DISEASES

Report for January, 1918

Prevalence. As shown by Table I. following, the January total of 8,811 cases of notifiable diseases was lower than the total for January during the two preceding years, 9,439 and 11,071 cases, giving for the month a case rate, per 1,000 population, of 1.7 as compared with 1.8 and 2.5 for January 1917 and 1916. The cities reported 4,937 cases, 56 per cent of the state total. In order of greatest reported prevalence for the month the diseases list as follows: (1) smallpox 1,939, (2) chickenpox 1,005, (3) measles 997, (4) scarlet fever 861, (5) mumps 834, (6) whooping cough 769, (7) diphtheria 556, (8) tuberculosis 496, (9) pneumonia 462, (10) German measles 378, (11) ophthalmia neonatorum 131 and (12) typhoid fever 107 cases. For no other one notifiable disease was a total of 100 cases or more recorded for the month. Three cities, Ironton, Marion and Wooster failed to submit any reports by date of February 15. Reports for January were received from 94 per cent of all health districts by February 15. Delinquent reports are requested.

Smallpox. Table III. following shows the county distribution of the 1,939 cases of smallpox reported for January, together with county totals for the three preceding months of the present smallpox epidemic. There are nine counties which have not reported any cases for the past four months. Health officers of these counties are urged to encourage vaccination and re-vaccination in order to keep their districts free from the disease.

Meningitis, Cerebrospinal. The total of 38 cases, four times higher than totals for the past two years, occurred as follows: Ashtabula Co., Ashtabula 1, Jefferson 1; Butler Co., Middletown 1; Columbiana Co., Leetonia 1; Cuyahoga Co., Cleveland 6; Franklin Co., Columbus 3; Hamilton Co., Cincinnati 3; Hancock Co., Van Buren 1; Jefferson Co., Steubenville 1, Mingo Junction 1; Lucas Co., Toledo 1; Mahoning Co., Youngstown 2, Struthers 1; Medina Co., Wadsworth 1; Montgomery Co., Dayton 3; Noble Co., Caldwell 1; Ross Co., Chillicothe 1, Camp Sherman 5; Scioto Co., New Boston 1; Seneca Co., Venice Tp. 1, and Summit Co., Akron 2; total 38 cases.

Poliomyelitis. The 5 cases of poliomyelitis were reported as follows: Ashland Co., Ashland 1; Franklin Co., Columbus 1; Hamilton Co., Cincinnati 1; Logan Co., Bellefontaine 1, and Warren Co., Wayne Tp., 1.

TABLE I. REPORTED CASES OF NOTIFIABLE DISEASES, OHIO, JANUARY, 1916-1918.

With Distribution for Cities and for Villages and Townships, January, 1918, and Case Rates Per 1000 Population, January, 1916-1918:

Notifiable Disease.	January, 1918.			January, 1917.	January, 1916.	January Case Rates Per 1,000 Population.		
	Cities.	Villages and Townships.	Total.*			1918.	1917.	1916.
All Notifiable Diseases...	4,937	3,525	8,811	9,439	11,071	1.874	1.812	2.148
Chickenpox	654	347	1,005	1,465	954	.191	.281	.185
Diphtheria	402	143	556	680	774	.105	.131	.150
Gonorrhea	34	26	69	141	156	.013	.027	.030
Measles	500	421	997	2,934	4,092	.189	.568	.794
Measles, German	197	181	378	94	106	.071	.018	.020
Meningitis, Cerebrospinal.	24	9	38	10	8	.007	.002	.002
Mumps	365	304	834	310	234	.158	.060	.045
Ophthalmia Neonatorum..	127	4	131	154	101	.025	.030	.020
Pneumonia, Acute Lobar.	280	177	462	743	1,014	.088	.143	.197
Poliomyelitis	4	1	5	11	8	.001	.002	.002
Scarlet Fever	367	427	861	1,218	1,435	.164	.234	.278
Smallpox	881	1,055	1,939	199	334	.368	.038	.065
Syphilis	42	5	49	71	93	.009	.014	.018
Trachoma	26	49	75	51	23	.014	.010	.004
Tuberculosis	443	51	496	517	547	.094	.099	.106
Typhoid Fever	65	42	107	162	212	.020	.031	.041
Whooping Cough	514	255	769	654	957	.146	.126	.185
Other Notifiable Diseases.	12	28	40	25	23	.007	.005	.004

* Total figures include cases reported by Camp Sherman and Wright Aviation Field.

TABLE II. REPORTED CASES OF TEN NOTIFIABLE DISEASES WITH TOTAL CASE RATES PER 1,000 POPULATION, OHIO CITIES, JANUARY, 1918.

City.	Total Case Rate Per 1,000 Pop- ulation.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis, Cere- brospinal.	Pneumonia, Acute Lobar.	Polymyelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
TOTAL, 80 CITIES	1.253	3,480	402	500	24	280	4	367	881	443	65	514
Akron	3.399	309	30	28	2	2	....	22	170	23	2	30
Alliance* .....	.100	2	....	....	....	....	....	....	....	2	....	....
Ashland .....	.101	1	....	....	....	....	1	....	....	....	....	....
Ashtabula .....	.180	4	....	1	1	....	....	....	....	....	2	....
Athens .....	.670	5	....	....	....	....	....	1	2	....	....	2
Barberton	1.314	18	5	....	....	....	....	....	11	2	....	....
Bellaire	1.512	24	1	5	....	....	....	11	3	1	3	....
Bellefontaine .....	.840	8	2	1	....	1	1	....	2	1	....	....
Bellevue .....	.326	2	....	2	....	....	....	....	....	....	....	....
Bowling Green* .....	....	....	....	....	....	....	....	....	....	....	....	....
Bucyrus .....	.742	7	2	3	....	1	....	....	1	....	....	....
Cambridge	1.633	23	....	5	....	....	....	....	14	2	1	1
Canton .....	.990	68	19	4	....	6	....	15	20	2	....	....
Chillicothe	4.221	67	4	41	1	5	....	13	....	1	2	....
Cincinnati .....	.844	422	50	56	3	3	1	36	40	127	3	108
Circleville .....	.148	1	....	1	....	....	....	....	....	....	....	....
Cleveland .....	.844	844	160	82	6	172	....	29	140	142	9	104
Columbus	1.224	306	11	59	3	3	1	85	60	27	2	55
Conneaut	1.712	16	1	1	....	3	....	....	....	....	1	10
Coshocton* .....	.164	2	....	....	....	....	....	....	2	....	....	....
Dayton .....	.973	139	19	41	3	11	....	18	27	15	....	5
Defiance .....	.952	7	....	....	....	2	....	3	....	1	....	1
Delaware .....	.110	11	3	....	....	6	....	2	....	....	....	....
Delphos .....	.549	3	1	....	....	....	....	2	....	....	....	....
Dover .....	.262	2	....	....	....	1	....	1	....	....	....	....
East Cleveland	1.794	26	....	5	....	2	....	4	4	1	....	10
East Liverpool .....	.473	11	2	1	....	....	....	1	6	1	....	....
Elyria	1.450	29	2	2	....	....	....	....	21	1	....	3
Findlay .....	.804	12	3	1	....	....	....	1	5	2	....	....
Fostoria .....	.450	5	2	....	....	....	....	....	2	1	....	....
Fremont	3.564	36	1	....	....	4	....	1	....	1	....	29
Galion* .....	.139	1	....	....	....	....	....	....	....	1	....	....
Gallipolis	1.056	6	2	....	....	2	....	....	....	2	....	....
Greenville .....	.438	3	....	....	....	....	....	2	1	....	....	....
Hamilton .....	.462	21	2	3	....	2	....	3	10	1	....	....
Ironton* .....	....	....	....	....	....	....	....	....	....	....	....	....
Jackson* .....	....	....	....	....	....	....	....	....	....	....	....	....
Kenton* .....	....	....	....	....	....	....	....	....	....	....	....	....
Lakewood	1.189	29	5	11	....	6	....	2	....	5	....	....
Lancaster	2.135	35	2	19	....	....	....	4	7	1	....	2
Lima	1.440	48	5	7	....	1	....	7	26	2	....	....
Lorain	1.025	41	8	1	....	....	....	10	19	2	....	1
Mansfield	4.300	100	1	....	....	4	....	....	....	....	....	95
Marietta .....	.134	2	1	....	....	....	....	....	1	....	....	....
Marion* .....	....	....	....	....	....	....	....	....	....	....	....	....
Martins Ferry .....	.194	2	1	....	....	....	....	....	1	....	....	....
Massillon .....	.640	10	....	....	....	....	....	1	8	1	....	....

TABLE II. REPORTED CASES OF TEN NOTIFIABLE DISEASES WITH
TOTAL CASE RATES PER 1,000 POPULATION, OHIO CITIES,
JANUARY, 1918—Concluded.

City.	Total Case Rate Per 1,000 Pop- ulation.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis, Cere- brospinal.	Pneumonia, Acute Lobar.	Polio-myelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
Middletown	1,525	25	...	...	1	3	...	1	16	4	...	...
Mt. Vernon	243	3	1	...	...	...	...	1	1	...	...	...
Nelsonville	1,359	9	1	...	...	6	...	...	1	...	1	...
New Philadelphia ...	855	9	...	1	...	1	...	3	2	2	...	...
Newark	1,312	41	1	24	...	1	...	9	7	...	...	...
Niles	440	4	...	1	...	1	...	...	...	...	2	...
Norwalk	1,170	10	...	1	...	2	...	...	...	7	...	...
Norwood	1,025	25	3	13	...	...	...	...	1	2	...	6
Painesville	510	3	...	3	...	...	...	...	...	...	...	...
Piqua	1,932	28	...	2	...	3	...	6	13	4	...	...
Portsmouth	2,046	62	3	11	...	3	...	...	43	2	...	...
Ravenna	936	6	...	1	...	...	...	...	5	...	...	...
St. Bernard	316	2	2	...	...	...	...	...	...	...	...	...
St. Marys	498	3	...	...	...	...	...	3	...	...	...	...
Salem	990	10	2	...	...	...	...	7	...	...	...	1
Sandusky	392	8	1	1	...	3	...	2	...	1	...	...
Sidney	2,448	18	...	...	...	...	...	4	14	...	...	...
Springfield	1,634	86	3	9	...	3	...	5	6	13	19	28
Steubenville	315	9	...	6	1	...	...	1	...	1	...	...
Tiffin	760	10	1	2	...	1	...	...	...	1	...	5
Toledo	950	190	23	40	1	6	...	32	39	34	5	10
Troy*	158	1	...	...	...	...	...	...	1	...	...	...
Urbana	468	4	...	...	...	2	...	...	...	...	1	1
Van Wert	1,032	8	...	...	...	...	...	7	1	...	...	...
Wapakoneta	459	3	1	1	...	...	...	...	1	...	...	...
Warren	962	13	2	1	...	...	...	1	7	...	...	2
Washington C. H.	936	8	3	...	...	...	...	1	3	...	...	...
Wellston	6,235	43	1	...	...	...	...	2	40	...	...	...
Wellsville	770	7	...	...	...	1	...	...	...	1	5	...
Wooster* .....	...	...	...	...	...	...	...	...	...	...	...	...
Xenia	8,625	75	...	...	...	...	...	...	75	...	...	...
Youngstown*	351	39	8	2	2	7	...	5	1	1	3	10
Zanesville	372	12	...	1	...	1	...	3	1	2	4	...

* Reports from Ironton, Marion and Wooster were delinquent and from Alliance, Coshocton, Galion, Troy and Youngstown were incomplete to date of February 15th. Bowling Green, Jackson and Kenton reported no cases of notifiable diseases during January.

TABLE III. REPORTED CASES OF SMALLPOX BY COUNTIES,
OCTOBER,, 1917—JANUARY, 1918.

County.	1917.			Jan., 1918.	Total.	County.	1917.			Jan., 1918.	Total.
	Oct.	Nov.	Dec.				Oct.	Nov.	Dec.		
Total.....	510	800	1,144	1,939	4,393	Lawrence	4	10	7	21	
Adams			9	82	91	Licking		10	9	19	
Allen	2		1	28	31	Logan			4	13	17
Ashland						Lorain	2	1	8	42	53
Ashtabula						Lucas	14	15	39	59	127
Athens		4	15	18	37	Madison		5	7	15	27
Auglaize		1	6	12	18	Mahoning					
Belmont		1	1	6	8	Marion	5				5
Brown				19	19	Medina	7	14	44	8	73
Butler	15	10	38	37	100	Meigs					
Carroll	5				5	Mercer	1	3	5	34	43
Champaign				1	1	Miami	37	26	10	18	91
Clark	3	14	7	6	30	Monroe					
Clermont			1		1	Montgomery	16	27	23	32	96
Clinton	2	3		2	8	Morgan					
Columbiana			2	10	12	Morrow			1	4	5
Coshocton		1	1	2	4	Muskingum				5	5
Crawford			1	1	2	Noble					
Cuyahoga	57	84	135	145	421	Ottawa				2	2
Darke	5	10	28	7	50	Paulding			4	11	15
Defiance		4	3	4	11	Perry		1	2	6	9
Delaware			1	1	2	Pickaway			29	61	90
Eric			5	2	7	Pike		2	11	1	14
Fairfield	5	3	9	7	24	Portage	33	32	47	18	130
Fayette		3	42	10	55	Preble			3	9	12
Franklin	13	20	25	72	130	Putnam	2	20	3	1	26
Fulton		8	3	10	21	Richland				1	1
Gallia	1			2	3	Rose	7	6	6	4	23
Geauga	2				2	Sandusky	1	1			2
Greene	17	38	42	109	206	Scioto	4	78	29	105	216
Guernsey	15	12	36	36	99	Seneca				2	2
Hamilton	2	7	35	43	87	Shelby	99	150	95	64	406
Hancock			14	32	46	Stark	6	19	31	35	91
Hardin				10	10	Summit	25	105	115	243	488
Harrison			36	202	238	Trumbull	10	6	16	12	44
Henry				11	19	Tuscarawas	1	6	9	22	38
Highland	2	3	3	11	19	Union				2	2
Hocking	30	30	4	11	75	Van Wert	6	8	1	2	17
Holmes			7	29	36	Vinton			1	2	3
Huron	2	1		1	4	Warren	5		14	16	35
Jackson			9	47	56	Washington	1	2	1	1	5
Jefferson						Wayne	49	10	43	43	145
Knox	1		1	1	3	Williams		2	1	4	7
Lake		1	1		2	Wood				9	9
						Wyandot				1	1

DIVISION OF PUBLIC HEALTH EDUCATION AND TUBERCULOSIS

Summary for January, 1918

Educational Work

Literature distributed — pieces	2,174
Literature distributed — subjects covered	25
Lectures delivered	5
Newspaper publicity stories issued	7
To entire state list of 600 papers.....	3
To smaller groups of papers.....	4
Pamphlets prepared	5
Number of Ohio Public Health Journals issued.....	1
Exhibit	(In storage)

Public Health Nursing Service

Local Field Activities. The following public health nurses were appointed during the month: Miss Nora J. Viets, Chicago, in charge of public health nursing work of the Bureau of Community Service, Portsmouth; Miss Eva Johnson, public health nurse, Marietta; Miss Annie J. Cunningham, public health nurse, Bellefontaine.

Prevention of Blindness

Number of cases reported	126
White	116
Colored	7
Unknown	3
Male	62
Female	61
Unknown	3
Reported by physicians and midwives.....	1
Reported by physicians	42
Reported by midwives	47
Reported by nurses	26
Reported by institutions	9
Reported by laymen	1
Instructions to health officers by telephone.....	1
Number of cases investigated by department.....	6
Number of cases provided with nursing care.....	1
Number of cases reported as having impaired vision.....	1
Total loss of vision of one eye with partial loss of vision of other eye..	1

Admissions and Discharges

Of the 232 notifications received (see table below) 150 were referred for investigation and report to local health nurses; 4 were referred to other State Departments; 1 referred to local health officer; 23 were investigated by Division nurses; 28 were found whose histories were not obtainable, and 26 were pending investigation.

Of the 34 cases pending investigation January 1, 11 were investigated by Division nurses, 1 by local nurse. Twenty-six new pending cases were added, making a total of 48 cases pending investigation February 1, 1918.

**NOTIFICATION OF TUBERCULOSIS HOSPITAL ADMISSIONS AND DISCHARGES
RECEIVED BY THE DIVISION OF TUBERCULOSIS, STATE DEPARTMENT
OF HEALTH, DURING THE MONTH OF JANUARY, 1918.**

<i>Institution.</i>	<i>Total No. Patients Reported.</i>	<i>No. of Admis- sions.</i>	<i>No. of Dis- charges.</i>	<i>Total No. and Dis- charges.</i>
Ohio State Sanatorium.....	60	33	33	66
Butler County Sanatorium.....	3	3	1	4
Franklin County Sanatorium.....	29	22	15	37
Lucas County Tuberculosis Hospital..	36	19	24	43
Dayton District Hospital.....	11	9	3	12
Lima District Hospital.....	8	5	4	9
Springfield District Hospital.....	9	7	2	9
Springfield Lake Sanatorium.....	40	23	20	43
Rocky Glen Sanatorium.....	6	2	4	6
St. Anthony's Hospital.....	3	0	3	3
Total	205	123	109	232

Discharged Tuberculous Soldiers

Number of notifications received	229
Number of cases referred to public health nurses.....	162
Number of reports received from public health nurses.....	27*
Number of cases written directly.....	67
Number of replies received.....	8*
Number of cases visited by division nurse.....	0
Number of cases admitted to hospitals.....	1
Number of cases not found.....	7

DIVISION OF LABORATORIES

Summary for January, 1918

Examinations

BACTERIOLOGICAL EXAMINATIONS:

Tuberculosis, pos. 95, neg. 262.....	357
Diphtheria, pos. 82, neg. 282, susp. 16.....	380
Typhoid, pos. 8, neg. 29, susp. 6.....	43
Rabies, pos. 10, neg. 3, susp. 2.....	15
Water	91
Miscellaneous	1
Total	887

CHEMICAL SAMPLES:

Water	9
Miscellaneous	10
Sand	0
Total	19

SAMPLES SUBMITTED BY STATE BOARD OF AGRICULTURE:

Foods	74
Drugs	21
Fertilizers	6
Stock Foods	19
Limestones	2

Total	122
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SAMPLES FROM STATE LIQUOR LICENSING BOARD ..	1
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Grand total	1029
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* These figures are comparatively small due to the fact that we receive notification of discharge before the man has left his military camp and a necessary lapse of time occurs until he shows up in his home.

Distribution of Outfits

Tuberculosis	361
Diphtheria	408
Typhoid	48
Malaria	6
Ophthalmia	1807
Water, bacteriological	48

Total outfits distributed 2678

Food and Drug Samples Tested With Summary of Conclusions Reported

<i>Material.</i>	<i>Total.</i>	<i>Satisfac- tory.</i>	<i>Mis- branded.</i>	<i>Adulter- ated.</i>	<i>Insufficient Information.</i>
Milk	18	13	0	4	1
Cream	4	0	0	0	4
Butter	2	1	0	0	1
Oleomargarine	1	1	0	0	0
Lard	2	2	0	0	0
Sausage	3	3	0	0	0
Hamburg	4	1	0	2	1
Vinegar	6	3	0	3	0
Oysters	3	3	0	0	0
Vanilla Ext.	6	0	0	6	0
Lemon Ext.	5	5	0	0	0
Orange Ext.	2	2	0	0	0
Misc. Exts.	8	0	4	4	0
Pop	3	2	0	1	0
Misc. Foods	5	3	0	1	1
Maple Sugar	1	1	0	0	0
Canned Foods	1	1	0	0	0
Total Foods	74	41	4	21	8
Spts. Camph.	2	2	0	0	0
Bay Rum	1	0	0	1	0
Ess. Peppermint	1	0	0	1	0
Acetylsalicylic Acid	1	1	0	0	0
Sodium Salicylate	1	1	0	0	0
Ammonia	1	0	0	1	0
Misc. Drugs	14	4	4	1	5
Total Drugs	21	8	4	4	5
Grand Total	95	49	8	25	13

DIVISION OF INDUSTRIAL HYGIENE**Summary for January, 1918****INVESTIGATIONS AND CONFERENCES:**

Oil infections	6
Medical supervision of war industries	1
Abstracts for American Journal of Public Health	1
Vaccination certificates for students	3

Cases of Tuberculosis arranged according to the U. S. Census Classification, reported in connection with Gainful Occupations:

<i>U. S. Census Symbol.</i>	<i>U. S. Census Classification.</i>	<i>Male.</i>	<i>Female.</i>
000	Agriculture, Forestry and Animal Husbandry.....	3	0
100	Extraction of Minerals.....	0	0
200 } 300 } 400 }	Manufacturing and Mechanical Pursuits.....	22	0
500	Transportation	2	0
600	Trade	4	0
700 {	Public Service	2	0
	Private Service	0	2
800	Domestic and Personal Service.....	5	8
900	Clerical	2	2
	Not designated	33	0
Total		73	12

DIVISION OF SANITARY ENGINEERING

Summary for January, 1918

Investigaion made	26
Plans received	9
Advice given on school sewage disposal plants	2
Ordinance approved	1
Conferences	7
Water certificates issued on railroad companies	102
Water certificates refused to railroad companies	16

DIVISION OF PLUMBING INSPECTION

Summary for January, 1918

Investigations made	26
Orders issued	9
Conferences held	4
Certificates of approval issued	14
Plans examined	3

PUBLIC HEALTH NOTES FROM OVER THE STATE

City appropriations for 1918 in Columbus included these allowances for public health work: Administration \$5,274.60, laboratory \$4,512.42, sanitary \$13,366, tenement inspection \$2,019.85, food inspection \$17,801.59, quarantine \$1,285.50, medical inspection \$5,456, district physicians \$3,600.

The board of health has called upon the city council for an additional food inspection appropriation. Unless the allowance is increased, the board declares, four meat inspectors will have to be dropped and meat inspection practically abandoned, confining the activities of the bureau to milk inspection. The effect of this policy, the health board predicts, would be to make Columbus a dumping ground for diseased meat.

Upon notice from the board of health last month that an epidemic of smallpox threatened the city, the Columbus council authorized a bond issue of \$5,000 to pay for preventive measures.

At least two Ohio educational institutions—the Ohio State University and the University of Cincinnati—have required their students to be vaccinated or to show evidence of recent successful vaccination. The State Department of Health aided in the work at Ohio State by inspecting scars and issuing vaccination certificates.

Oberlin's board of health has a woman member. Mrs. W. F. Thatcher has just been appointed

to the board. Columbus' only woman health board member, Miss Jennie L. Tuttle, who has served for several months filling out an unexpired term, has been given a regular four-year appointment, dating from February 1.

The State Department of Health has ordered discontinuance of pollution of the Chagrin River at Chagrin Falls. The town of Willoughby, on the river below Chagrin Falls, is contemplating the use of the stream as a source of water supply.

A campaign to raise \$5,000 for the support of public health nursing work was carried out in Mansfield in February.

Columbus must find some new method by which to dispose of its sewage, according to the annual report of Waterworks Chemist C. B. Hoover for 1917. Hoover said that the watersheds of the Scioto River, the Olentangy River and Alum Creek are inadequate to care for the wastes which are left even after treatment of the sewage at the disposal plant. The total daily volume of the city's sewage averages 20,000,000 gallons and during 44 per cent of the time between July and December, 1917, no water whatever flowed over the crest of the storage dam above the city.

Pumping of water into Lima's new billion-gallon storage reservoir was scheduled to start March 1. Enough of the reservoir to hold

half its ultimate capacity was completed before cold weather forced a suspension of work.

Nurses of the Dayton Visiting Nurses' Association made 49,805 visits during 1917. They attended to 7,578 new patients and cared for 540 baby cases. They treated 178 new cases of tuberculosis and 1,001 old cases. Financial needs of the

organization for next year are estimated at \$10,293.

Patients treated by the twenty-two nurses of the Toledo District Nurse Association in 1917 numbered 9,093. The total of visits was 68,263. The association cared for 2,538 babies and distributed 5,810 quarts of milk for use of babies.

HEALTH OFFICERS' ROUNDTABLE

Akron's Health Problem

"No city in the United States has a greater problem in health conservation than Akron, where the enormous transient population and the inadequate housing facilities present extraordinary opportunities for disease," said Dr. C. T. Nesbitt, Akron health commissioner, in a recent address.

Dr. Nesbitt said that Akron had three natural health advantage—good topography, good climate and good water—but that the city also had handicaps, among which he named: a one-third efficient sewer system, inadequate methods of garbage collection and disposal, and insufficient control of food and milk inspection.

The appropriation ordinance in Akron for the first six months of 1918 carried heavier grants for health work than the city had expended in the past. The total amount was \$40,371.72. It will allow considerable extensions in work, which the new commissioner now has under way.

* * *

Chlorine Treatment Retained

After considerable discussion, Springfield has decided to continue

the use of chlorine in disinfecting the city's water supply. Objection was made to the chlorine treatment on the ground that it gave a bad taste to the water. As a result there was for a time considerable leaning among city officials toward installing the violet-ray system of disinfection. Investigation, however, convinced City Manager C. E. Ashburner and other officials that the chlorine process was preferable.

The violet-ray system of purification is in a more or less experimental stage in this country. It is used only in a few scattered instances and these are in small cities whose water consumption is relatively low. The principal objection to the process is its high cost as compared to chlorine treatment.

* * *

Anti-Typhoid Treatment's Value

The North Carolina State Board of Health in a recent announcement says that it is encouraged to continue the work of typhoid prevention through the reductions that have been made in the state's death rate from typhoid fever within the last three years—the time the work has been done by the board. While less than 10 per cent of the

people have been given this preventive treatment, the death rate from typhoid fever has decreased over 20 per cent.

* * *

Way to Enforce Vaccination

Cincinnati health authorities are promoting vaccination through the assistance of manufacturing plants. Several concerns have, at the suggestion of the department, issued orders which give employees a choice between being vaccinated and being discharged.

* * *

New Health Officers Named

Dr. Joseph W. Chetwynd is East Liverpool's new health officer, succeeding Dr. Samuel Rich, resigned.

Dr. Wray Davis has succeeded Dr. C. W. Chidester as health officer at Delaware.

Dr. H. M. Hazleton, Lancaster health officer, and G. H. Fowler, Dennison health officer, have been reappointed for 1918 by their respective boards of health.

* * *

Bacteriologist for Lima

Dr. A. L. Jones, Lima health officer, is to have the services of a bacteriologist and chemist at his disposal. A man with these qualifications is to be employed as superintendent of the city's new filtration plant, and in addition is to do general bacteriological and chemical work for the health department.

* * *

Using the Newspapers

Dr. J. H. Lowe, health officer at Piqua, is using the columns of the daily newspapers in his city to instruct the community in matters pertaining to health. A timely article on pneumonia, with instructions in how to avoid the disease, was one of his recent contributions.

GOAT MILK FOR BABIES

Baby's goat may be a highly thought of member of many households before the war is ended. In fact, the New York agricultural station has already given serious consideration to the possible use of this fun provoking animal by households with young children.

Thus "Goat Milk Good for Babies" is the subject of a bulletin recently issued by the station. The bulletin states that from the station's experience with goats it would seem that only in exceptional cases where the use of otherwise wasted feed would reduce the cost of keeping, or with exceptional animals, could goats be expected to produce milk as economically as cows.

For family use, however, in places where it is impossible to keep a cow and where a goat or two could be kept, these animals might prove valuable aids in maintaining babies or small children in good health.

Goat's milk is palatable, nutritious and easily digested. It is very helpful in certain cases of poor nutrition, and is without odor when drawn under proper conditions and with proper care. Furthermore, the station states, it is practically free from liability to transmit certain certain diseases, like tuberculosis, which may be transferred to children from cows.

Of course, the odor from goats is decidedly unpleasant at times, but as this is mainly due to the male, the annoyance from this source may be reduced to a minimum where only a few doses are kept and under proper conditions. — DR. R. H. BISHOP, JR., *Cleveland Commissioner of Health, in Cleveland Plain Dealer.*

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EDITORIALS

Can Ohio Reduce Baby Deaths As New Zealand Has Done?

Why should not Ohio enter the race with New Zealand in saving the lives of babies? We paraphrase a recent

bulletin of the Federal Children's Bureau, which, after remarking that Minnesota had the lowest infant death rate in the United States registration area, asked: "Why should not Minnesota enter the race with New Zealand?"

To be sure, there are certain facts which would constitute handicaps to Ohio in such a race. Ohio is more thickly settled than New Zealand, and has larger cities. The character of her population is not the same as that of New Zealand.

Handicaps, however, ought only to make the handicapped one exert a little more effort. They ought not to discourage him from entering.

The statistics which enter into a comparison between Ohio and New Zealand in the matter of infant mortality are given elsewhere in this issue. In general, Ohio has a rather high baby death rate, but nevertheless one which is somewhat lower than that for the registration area of the United States as a whole. Her rate is considerably higher than the rate which New Zealand was enjoying at the beginning of that dominion's remarkable decrease.

In other words, if Ohio were to reduce her infant mortality to a level equal to New Zealand's present rate, in a period of time equal to that covered by New Zealand's reduction, she would make a much greater proportionate decrease than New Zealand has made.

Ohio will, however, deserve much credit if she shows reductions approximately equal to those of New Zealand, even though the final result is a rate still a little higher than New Zealand's.

Speaking in generalities, one might say that the higher the initial rate, the greater is the chance for reduction. This may not be statistically correct, but the principle of it is reasonable.

In short, the situation is this:

Our rate is too high now. New Zealand's was not so high in the beginning, yet New Zealand has achieved a remarkable record. With our greater number of preventable deaths, why should we not achieve at least an equal reduction?

Prevention of Blindness Blindness, due to carelessness of physicians
Law Must Be Enforced or other attendants at birth, is one of the
 handicaps against which many children
must struggle in their fight to reap the full fruits of life. To prevent
such unnecessary, easily preventable blindness, the state of Ohio has
enacted a law, which, however, is not unfailingly enforced.

The blindness which these laws are designed to prevent results from
an inflammation, which is, in turn, caused by germs that get into the
eyes at birth. These germs can be killed by putting a prophylactic into
the child's eyes immediately after birth.

The law of Ohio for the prevention of blindness from this inflammation
provides in part as follows:

Any inflammation, swelling or redness in either one or both eyes
of any infant, either apart from or together with any unnatural discharge
from the eye or eyes of such infant, independent of the nature
of the infection, if any, occurring any time within two weeks after the
birth of such infant, shall be known as "inflammation of the eyes of
the new born."

It shall be the duty of any physician, surgeon, obstetrician, midwife,
nurse, maternity home or hospital of any nature; parent, relative
and any persons attendant on or assisting in any way whatsoever, any
infant or the mother of an infant at childbirth or any time, within two
weeks after childbirth, knowing the condition, hereinabove defined, to
exist, within six hours thereafter, to report such fact, as the state board
of health shall direct, to the local health officer of the city, town, village
or whatever other political division there may be, within which the infant
or the mother of any such infant may reside. For such services the attending
physician, surgeon, obstetrician, midwife, nurse, maternity home or hospital
shall receive from the state treasurer a fee of fifty cents.

The law further directs the State Department of Health to distribute
free of charge to physicians and midwives a prophylactic for inflammation
of the eyes of the newborn, with directions for its use. The prophylactic
distributed is a one percent solution of silver nitrate. Supplies may be
obtained by any physician or midwife direct from the Department or at
any of the 300 distributing stations scattered over the state.

In the case of births in maternity homes, hospitals, public or charitable
institutions, the use of some prophylactic is made compulsory by law,
and record must be made of the kind of prophylactic used. All midwives
are required by law to use, at all births attended by them, such prophylactic
as the State Department of Health may direct.

The duties of the local health officer are listed as follows in the law:

1. To investigate or to have investigated, each case as filed with him in pursuance with the law, and any other such case as may come to his attention.
2. To report all cases of inflammation of the eyes of the new born and the result of all such investigation as the state board of health shall direct.
3. To conform to such other rules and regulations as the state board of health shall promulgate for his further guidance.

A nursing service for the prevention of blindness is maintained by the State Department of Health to assist local health authorities in caring for cases of inflammation of the eyes of the newborn. With the limited appropriations at its disposal, however, the Department is able to care for emergency cases only. A large share of the work of guarding the children of the state against preventable blindness must rest with the local health authorities.

The health officer who wishes to do his part toward making the next generation able to bear the burdens to which it will fall heir, must exert every effort to see that the law for the prevention of blindness is enforced within his district and that every case of inflammation of the eyes of the newborn receives proper attention.

* * *

Measles and Whooping Cough Are Notifiable Diseases

One important source of danger to the health and lives of Ohio children is the laxity of many physicians in reporting cases of measles and whooping cough — the commonest of the childhood diseases.

A very liberal estimate places the number of reported cases of measles at about two-thirds of the number of recognized cases. The proportion of whooping cough cases reported is little higher.

It needs to be impressed upon the minds of physicians that these are reportable diseases, for despite the efforts of the State Department of Health to make this fact clear, there are still many doctors who think they need to report only those diseases in which state and local regulations require quarantine.

As Ohio laws now stand, the question of quarantining these diseases is left to the local health authorities for decision. In many communities, the health board allows them to go unquarantined, and physicians erroneously believe that they need not be reported.

The truth of the matter is, however, that measles and whooping cough, like numerous other diseases for which Ohio statutes do not require quarantine, nevertheless are on the list of notifiable diseases.

The importance of the reporting of communicable diseases is em-

phasized in the statement of the United States Public Health Service that "no health department, state or local, can effectively prevent or control disease without knowledge of when, where and under what conditions cases are occurring."

The physician who fails to report measles and whooping cough is therefore hampering the state and local health authorities in their efforts to control diseases which in 1916 killed 1,456 Ohioans.

* * *

Municipal Child Hygiene Divisions Will Help

One step in Ohio's campaign to conserve her children should be the organization of more municipal bureaus and divisions of child hygiene than now exist. Through such organization, giving the movement official standing in the cities, child welfare efforts can be more efficiently directed and better co-ordinated than where they are left entirely to volunteer enterprise.

This does not mean that the work of volunteer organizations should in the least be belittled. Such bodies are doing valuable work in many communities, and to eliminate them would be to give child hygiene work a serious setback.

A private association, however, though its work be ever so valuable, can never have the weight of authority which is possessed by a governmental agency — national, state or city. Neither does it always make possible such concentration and centralization of effort as does the official bureau.

The ideal plan, therefore, is to install the city child hygiene division, to direct child welfare work in the city and to co-operate with and co-ordinate the activities of such private agencies as are working along similar lines. Suggestions for such organization are given in Dr. Bolt's article in this number.

A half-dozen cities of the state have placed such control in the hands of their municipal health departments and have, more or less completely, organized divisions in the departments to carry out this function. In the other municipalities, however, methods to fit the local situation must be carefully worked out and put into operation before the problems of child hygiene can be most effectively met.

* * *

Baby-Saving Campaign as an Educational Force

To preserve for lives of worth and service to society 4,510 babies who under our "normally abnormal" conditions of infant mortality would be prematurely and unnecessarily taken away is an inspiring goal. But in the final analysis, even more important than the

saving of this particular group of lives is the great educational force which the "children's drive" is going to have.

Communities which have never before thought collectively and intelligently along lines of public health are to be awakened this year to the practical results which a little effort can bring about. Not only will this year's babies be saved, but a full measure of health and life for both children and adults will be more easily obtained in the future.

The thing to be remembered, in order to insure this far-reaching degree of success, is that the present campaign must not fall flat after twelve months and be followed by a reaction such as often comes after an effort of this kind. The interest aroused this year must be stimulated continuously through next year and the years that follow.

* * *

Smallpox Is Repulsed but Not Yet Defeated

Last month's reduction in the smallpox total does not mean that Ohioans can sit back with a self-satisfied smile and assure themselves that the cause for worry is past. Thirteen hundred cases is an improvement over 2,000 cases, but it is nevertheless a total of which the state should be ashamed.

It is useless for us to shed tears over the past, and it is dangerous to be contented with the present. The real task is to make the future such that we can rightfully be satisfied with it. The performance of this task rests with the local health officers of the state.

* * *

"Vaccination Has Again Been Proved Successful"

There is a lesson for every health district in Ohio in the following self-explanatory letter to the State Department of Health from a physician at Benton Ridge, Hancock County:

"I am glad to be able to report our smallpox epidemic evidently at an end — no new cases for four weeks. All cases have now recovered and been released from quarantine. No smallpox or other contagious disease is now reported in Benton Ridge or Blanchard Township. We have had 27 cases since January 1 — one case fatal. It was of the confluent, hemorrhagic type.

"Vaccination and isolation have again been proved successful. In homes where all were vaccinated there was no spread of the disease. Where vaccination was neglected or refused *every member of every family* took the disease."

Shipments of Chemicals for Water Purification Expedited

Owing to the congested freight situation shipments of chemicals used in connection with purification of public water supplies have been delayed. In several instances the results have been very serious. One large water purification plant was forced to operate without the use of alum for a period of more than one week and it was largely due to the very favorable condition of the raw water that the city escaped without serious effect upon the public health.

When it is considered that the purification of the water supplies of more than two million people in Ohio is dependent upon the use of chemicals, the importance of maintaining adequate supplies of such commodities is evident.

Through the efforts of the State Department of Health a ruling has been obtained from the Director General of Railroads whereby the shipment of chemicals necessary for purification of public water supplies will be expedited. No general priority order has been made and it is intended to deal with each individual case as it arises. This ruling greatly relieves the situation and removes the uncertainty which has existed for several months.

Superintendents should watch their chemical supplies with care and in case a shortage is threatened the matter should be brought to the attention of the State Department of Health.

* * *

Department Man Will Help Clean Up Holy Land and Egypt

Another opportunity to serve the nation's cause of liberty and democracy has come to the State Department of Health. A call that carries with it much honor both to the Department and to the man who responded has taken away from the staff William C. Groeniger, state inspector of plumbing. .

Mr. Groeniger, commissioned as captain in the Red Cross service, is now enroute to Palestine and Egypt as a member of a Red Cross health and sanitation unit which will inaugurate a "clean-up" program in those countries and develop decent living conditions for their people.

This departure adds the eleventh name to the Department's honor roll. Three of the eight divisions of the Department have contributed their heads to the national service.

The work into which Mr. Groeniger is entering is a great one. It constitutes the world's return of civilization to lands which hundreds and thousands of years ago gave civilization to the world.

His associates in the Department congratulate Mr. Groeniger upon this opportunity for service and send their good wishes speeding after him as he travels 'round the world to his new field of work.

Life of Service Ends for**Pennsylvania Health Commissioner**

Public health activities in our sister state of Pennsylvania have recently suffered a heavy loss in the death of Dr. Samuel G. Dixon, health commissioner ever since the reorganization of the Keystone commonwealth's state department of health in 1905.

His ability as a public health administrator is seen in concrete form in the efficient, progressive department he built up. He also won renown in his busy life as a lawyer, scientific research worker and teacher.

Pennsylvania, with the passing of her health commissioner, loses a valuable citizen and public servant. Ohio grieves also and sympathizes with her in her bereavement.

Local Health Organization in Ohio

The State Department of Health recently received the following letter from the superintendent of schools in a northwestern Ohio village of approximately 1,000 inhabitants:

"In a community of some 300 pupils we have lost during this school year to date the equivalent of 875 days of school for one pupil, or about five years for one pupil, or about 35 days for a grade of 25 pupils. If we count the cost in other ways — in doctors' attentions and charges, in failures of pupils, and consequent repetition of grades, in using the teachers' time in needless repetitions, in hindrance of the progress of other pupils, etc., — the situation is most deplorable.

"And all this must be suffered because health officers are careless of their duties and because public attitude, fashioned in ignorance, says that chickenpox is a child's disease, all children must have it and the sooner it is over the better.

"The end is not yet. Because quarantines are not issued, more cases of chickenpox are developing and measles has secured a foothold unnoticed.

"The school has been waging the battle single-handed and unsuccessfully. One or two quarantines might have prevented the situation, and might yet save us from the epidemic of measles. What can you do to assist the school?"

State Program for Child Welfare

Outline of Activities to Be Carried on by the State Department of Health and the Ohio Branch, Women's Council of National Defense, in Support of Federal Child Conservation Plans

OBJECT — To promote every possible type of service in the state of Ohio which shall contribute to the health and welfare of the mothers and children of the state.

MEMBERS OF STATE COMMITTEE — Director, Division of Child Hygiene, State Department of Health, chairman. Representative women from different sections of the state doing effective work in some branch of the children's welfare work.

MEMBERSHIP IN COUNTY AND MUNICIPAL COMMITTEES — Representatives of all the different local agencies, men and women working together to the advantage of the local committee, the chairman of the local committee at least to keep in very close touch with the chairman of the men's committee on child welfare, if there be one.

CLASSIFICATION OF WORK —

1. Educational propaganda to establish an ultimate system of public health organizations which shall include all phases of modern sanitation.
2. Prenatal and infant work.
3. Work for the pre-school child.
4. Health and recreation for the school child.
5. Development of county health centers.

POSSIBLE ACTIVITIES —

1. Prenatal and infant work.
 - a. State bureau for pregnant mothers.
 - b. Birth registration and family study.
 - c. Prenatal service by visiting nurses.
 - d. Prenatal clinic centers for instruction of mothers.
 - e. Development of obstetrical facilities for rural women.
 - f. Local supervision of midwives.
 - g. Co-operation in enforcement of prevention of blindness legislation.
 - h. Improvement of system of licensing maternity hospitals and infant boarding homes.
 - i. Development of babies' dispensary and hospital service.
 - j. Establishment of local milk stations.
 - k. Adoption of local milk ordinances.
 - l. Educational propaganda through talks and literature.
2. Activities for pre-school child.
 - a. Health conferences with careful physical examinations. Weighing and measuring test.

- b. Local protection from communicable diseases, through the development of local health agencies.
 - c. Demonstration of feeding for older children.
 - d. Playgrounds and supervised games.
 - e. Talks and demonstrations for mothers by doctors, nurses and kindergarten and playground instructors.
3. Activities for school child.
- a. Physical supervision of school child.
 - (1) Introduction of proper physical records into the schools.
 - (2) Concerted effort to increase the number of physicians and nurses employed by departments of health and education to work in schools.
 - (3) Establishment of modern dental clinics.
 - (4) Development of physical education and recreational facilities; playgrounds, swimming pools, gymnasiums and garden movements.
 - b. Co-ordination of health work through junior leagues, comprising:
 - (1) Work for very little children.
 - (2) Development of children's efforts for daily health activities, health officers' duties, hygiene of school rooms, personal hygiene and study of absentee-ism.
 - (3) Little mothers' leagues.
 - (4) Junior sanitary police.
 - (5) High school health work, hygiene of grounds and buildings, municipal studies, and lessons in citizenship.
 - (6) Development of social morality among all students.
 - c. Stimulation of interest in children's tuberculosis program, especially open-air schools and rooms, and efforts to establish children's departments in the tuberculosis hospitals of the state.
 - d. Contact with child labor problem and concerted effort to keep children in school beyond the work certificate age. Endorsement of programs for vocational guidance and continuation schools.
 - e. Strengthening of parent-teacher's associations or mothers' clubs.
 - f. Standardization of schools from the angle of public health. "Scoring" schools.
4. Development of county health centers.
- a. Selection of one or more counties where sufficient funds could be secured to establish a community health center where a fully developed experiment might be carried out, with all of the phases of children's welfare work as the initial step.

STATE ACTIVITIES WITH WHICH COMMITTEE SHOULD KEEP IN TOUCH—

1. Hospital for crippled children.
 2. State program for child-caring.
 3. Bureau of juvenile research.
 4. State mental hygiene program.
 5. State health insurance.
 6. Program for prevention of juvenile delinquency.
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Proposed Children's Welfare Program

By Frances M. Hollingshead, M. D., Director, Division of Child Hygiene, State Department of Health, and Chairman, Child Welfare Committee, Women's Committee, Ohio Branch, Council of National Defense

THE foregoing tentative program for child welfare activities during the "Children's Year" has been prepared by the State Department of Health and the Women's Committee, Ohio Branch, Council of National Defense. The program has been presented to a group of child welfare workers, men and women, and endorsed by them.

The greatest effort possible is to be made during this crisis to reduce the loss of life among the children of Ohio. To do so will require various ways and means and each community will have to devise a number of schemes to solve its own problem most satisfactorily. The program is a tentative one and is such that any single piece of its children's work may be organized and developed in a community. The individual community is not expected to follow out all of its details except in the very large cities, where most of the different activities have already been established. Even here, it will depend upon the approval or otherwise of the local workers.

Measurement Test First

On the other hand, in every community in the state, however small, some contribution to the general work should be made. The first definite piece of work to be undertaken will be to place Ohio on the map in the drive for the weighing and measuring test of children under five, to be carried on by the Women's Council of National Defense.

For the actual work in this campaign the women of the state will be fully organized. There will be eighty-eight county chairmen, each one of whom will have as her advisers at least a group of local men and women. She will also have captains and lieutenants in all parts of her county. These women will carry the cards into those homes where the mother cannot attend a conference. Where it is possible for the local workers to organize group conferences under the supervision of doctors and nurses, the cards will be filled out there. It will in this wise be possible for any mother, urban or rural, to register her child if she wishes to do so.

Test Simple in Nature

The questions must necessarily be very simple and the results not scientific in their reliability but every particle of information gathered in this wise will be so much to the good. In Ohio, as in other states, we know but little anywhere—and in most places nothing at all—of the whereabouts of children of the pre-school age.

Ohio has been assigned a quota of 4,510 babies as her share of the 100,000 which the campaign is supposed to save. Definite assignment of local quotas has already been made by the State Department of Health to the eighty cities and eighty-eight counties. A number of these counties have already been fully organized and the women are waiting for the Federal Bureau to send them the actual registration blanks in order that they may begin active service.

School Survey Later

The initial campaign will occupy three months and it is a little soon to say what the next step asked as a state-wide movement of these women will be. In the fall, at least, a concerted effort will be made to gather through the activities of the women a large amount of definite information as to the condition of the schools in the state.

The school furnishes a concrete factor which almost any mother can recognize. It is that place which absorbs the greatest amount of her children's time and in the past in some localities she has been singularly indifferent to a personal knowledge of its sanitation, its regard to the physical welfare of her child and any knowledge as to whether it is doing all physically for her child which she has the right to demand. We have in Ohio now the county superintendent system, will soon have operative gov-

ernment grants for vocational activities in the schools, and in many places the beginnings of the physical supervision of children. On this last score especially in the smaller places there is much to be accomplished. One potent factor in bringing about this much desired result is bringing a large group of women into contact with their problems and teaching them to know what they have a right to demand for their children.

Big Possibilities in Ohio

There are few states in the union which are better organized today in this work and very few more prosperous ones. If the intelligent interest of the men and women in Ohio shall be brought properly to bear upon these questions the state can surely go very far toward correcting certain glaring defects.

These are merely parts of the children's welfare program which it is hoped will become a real force in the general health propaganda in the state of Ohio.

PHYSICIAN IS BLAMED FOR SERIOUS EPIDEMIC

Twenty cases of whooping cough, one death and the closing of the community school for four weeks or longer is the result of the failure of a family physician to report and have quarantined an original case of whooping cough in a prosperous community in North Carolina.

The physician visited the home of the first case, pronounced it whooping cough but neglected to report it to the county quarantine officer, whereby it would have been quarantined. Meanwhile other children in the home contracted the disease, continued to go to school, and spread the infection to epidemic proportions.

County and City Quotas Apportioned for Ohio's Child Saving Campaign

AS A FIRST STEP in the drive in Ohio to reach the quota of 4,510 lives under five years of age apportioned to the state to be saved during the current year, an estimated saving by counties and cities has been figured. The apportionment for Ohio was made by the Children's Bureau on the basis of the 1910 census. It represents a thirty per cent reduction in the loss of life under five years of age in 1916.

Census figures showing age distribution for all sections of the state not being available, the apportionment for counties and cities was made on mortality figures for 1916. Mortality figures for 1917 are not yet ready for publication. The cities in the state are responsible for over two-thirds of the deaths of children over five in 1916 and a total saving of 3,022 represents a fair quota for cities, leaving 1,488 for counties outside of cities. If the census method of apportionment had been used for certain parts of the state, some of the counties would have a quota to save exceeding the actual loss of life under five years of age in 1916 within the county. On the other hand, the cities like Cleveland and

Cincinnati, with census figures of respectively 62,512 and 29,172 children under five years of age in 1910, would have their quotas reduced to 588 and 135 children to save this year. On the basis of mortality in these two cities in 1916 they should save 827 and 310 babies respectively.

This conservation, made on the basis that we accept 4,510 babies as a possible reduction to be brought about in the state during 1918, is a big task and could only be actually accomplished by the united effort of men and women in every part of the state. Because of the very much more highly organized machinery for the reduction of infant mortality which exists at the present time in our large cities, it is only fair that they should make the largest contribution to this campaign for reduction. Because of these facts it is hoped that the large cities will accept the great responsibility which this plan imposes upon them and do all in their power to reduce their loss of life.

The following table presents the apportionment of the 4,510 children to be saved by the eighty-eight counties and eighty cities:

COUNTY AND CITY QUOTAS FOR CONSERVATION OF CHILDREN UNDER FIVE YEARS OF AGE

Deaths under five years in Ohio in 1916.	15,349
Deaths under five years in Ohio's 80 cities in 1916.	10,072
Deaths under five years in Ohio outside of cities in 1916.	5,277

<i>County.</i>	<i>Save.</i>	<i>City.</i>	<i>Save.</i>	<i>Save in County Exclusive of Cities.</i>
Adams	20		..	..
Allen	51	Delphos	4	15
		Lima	32	..
Ashland	12	Ashland	7	5
Ashtabula	48	Ashtabula	21	18
		Conneaut	9	..
Athens	43	Athens	3	31
		Nelsonville	9	..
Auglaize	18	St. Marys	3	13
		Wapakoneta	2	..
Belmont	120	Bellaire	25	79
		Martins Ferry	16	..
Brown	12			
Butler	75	Hamilton	28	13
		Middletown	34	..
Carroll	8			
Champaign	16	Urbana	5	11
Clark	51	Springfield	41	10
Clermont	20			
Clinton	11			
Columbiana	75	East Liverpool.....	28	25
		Salem	9	..
		Wellsville	13	..
Coshocton	21	Coshocton	9	12
Crawford	17	Bucyrus	5	8
		Galion	4	..
Cuyahoga	870	Cleveland	827	19
		East Cleveland.....	5	..
		Lakewood	19	..
Darke	25	Greenville	3	22
Defiance	12	Defiance	4	8
Delaware	17	Delaware	7	10
Erie	16	Sandusky	10	6
Fairfield	20	Lancaster	7	13
Fayette	14	Washington C. H.....	6	8
Franklin	180	Columbus	163	17
Fulton	14			
Gallia	17	Gallipolis	5	12
Geauga	7			
Greene	20	Xenia	9	11
Guernsey	36	Cambridge	10	26
Hamilton	355	Cincinnati	310	27
		Norwood	12	..
		St. Bernard.....	6	..
Hancock	23	Findlay	11	12

<i>County.</i>	<i>Save.</i>	<i>City.</i>	<i>Save.</i>	<i>Save in County Exclusive of Cities.</i>
Hardin	26	Kenton	9	17
Harrison	9			
Henry	10			
Highland	16			
Hocking	20			
Holmes	11			
Huron	17	Bellevue	4	11
		Norwalk	2	..
Jackson	25	Jackson	5	15
		Wellston	5	..
Jefferson	105	Steubenville	58	47
Knox	18	Mt. Vernon	8	10
Lake	17	Painesville	4	13
Lawrence	46	Ironton	19	27
Licking	35	Newark	22	13
Logan	14	Bellefontaine	6	8
Lorain	89	Elyria	18	13
		Lorain	58	..
Lucas	265	Toledo	251	14
Madison	16			
Mahoning	254	Youngstown	186	68
Marion	29	Marion	19	10
Medina	15			
Meigs	14			
Mercer	17			
Miami	23	Piqua	9	11
		Troy	3	..
Monroe	11			
Montgomery	142	Dayton	122	20
Morgan	6			
Morrow	9			
Muskingum	40	Zanesville	26	14
Noble	21			
Ottawa	14			
Paulding	12			
Perry	26			
Pickaway	22	Circleville	6	16
Pike	12			
Portage	22	Ravenna	6	16
Preble	8			
Putnam	18			
Richland	30	Mansfield	17	13
Ross	30	Chillicothe	11	19
Sandusky	22	Fremont	10	12
Scioto	75	Portsmouth	38	37

<i>County.</i>	<i>Save.</i>	<i>City.</i>	<i>Save.</i>	<i>Save in County Exclusive of Cities.</i>
Seneca	22	Fostoria	5	10
		Tiffin	7	..
Shelby	19	Sidney	8	11
Stark	123	Alliance	16	29
		Canton	66	..
		Massillon	12	..
Summit	230	Akron	179	33
		Barberton	18	..
Trumbull	66	Niles	14	35
		Warren	17	..
Tuscarawas	41	Dover	5	30
		New Philadelphia....	6	..
Union	13			
Van Wert.....	14	Van Wert	5	9
Vinton	9			
Warren	16			
Washington	29	Marietta	12	17
Wayne	22	Wooster	5	17
Williams	12			
Wood	30	Bowling Green	4	26
Wyandot	9			
<hr/> Total				
	4,510	Cities	3,022	1,072
	.	Counties without cities		416
		<hr/>		
		Total, State.....		4,510

"WHERE BABIES NEVER DIE."

The vital importance of child welfare work the world over is given daily new emphasis by the events of war. Never before have the nations so well understood the value of sound physical manhood and womanhood for the upbuilding of those common ideals for which civilization stands.

Cleveland entertains today and tomorrow in the person of Dr. F. Truby King of New Zealand one who has earned for that island dominion the title of "the country where babies never die." The doc-

tor is now on his way to England to inaugurate in the home land methods of welfare work that have proved so efficacious in New Zealand. At Washington he will confer with federal authorities in reference to work of the same kind in the United States.

Child welfare work in this city has already been given a great impetus through the activity of the Cleveland health department and the bureau of child hygiene. A particular effort is now under way to promote still further the movement to curtail the death rate among infants and to save for the

state a large percentage of the human resources now needlessly sacrificed. The visit of Dr. King should prove of great assistance in giving the local welfare workers new encouragement and in awakening the consciousness of the community to the magnitude of the task in hand.

By painstaking organization, by insisting upon the importance of prenatal care and of birth registration, by making every mother of the land virtually an active partner in the work of saving New Zealand's babies, Dr. King reduced infant mortality to an astonishingly low figure. The encouraging fact about it is that much the same accomplishment is possible for the United States and for any other country willing to buckle to the task as New Zealand did.—*Cleveland Plain Dealer*.

PIGS IS PIGS

Much has been said of late regarding the re-establishing of pigs within the limits of some of our cities. To any thinking person, a proposition of this kind should certainly be turned down by those who have the power to keep intact the present regulations.

Many arguments have been advanced favoring the return of the pig. Without being in the least unpatriotic, we wish to state that the argument of cleanliness, which can not be maintained with pigs, in connection with good health overshadows all points in favor of the pig return.

While dirty pigpens are not directly the cause of any disease affecting mankind, nevertheless as a breeder of flies and as an incentive for the pig owner to disregard all other rules of cleanliness, it cer-

tainly is a splendid opportunity for conditions such as existed twenty or more years ago to return and bring with them the high death rates that have but recently been lowered.

As for ourselves, if pigs should ever be allowed to return to the city limits, we are going to buy a five-acre tract of land on the highest surrounding mountain and reside there. Aside from that, we would request and make every effort to obtain sufficient funds to employ enough inspectors (one for each block) to supervise the dirtiness of the pigpens.

A pigless community has been the aim for a long time. They should not be allowed to return with a mere stroke of the pen.—Cumberland (Md.) *Health Bulletin*.

PUBLIC HEALTH SERVICE CONSIDERS MALNUTRITION

Following studies of the causes of draft rejections, which are interpreted to mean that malnutrition in childhood was an important underlying cause, the United States Public Health Service, it is officially announced, is considering a national program of co-operation with state, county and municipal health authorities for the purpose of safeguarding the health of school children.

Steps to see that every school child is provided with a warm, properly balanced meal at noon are advocated. The rising cost of living and the lack of general knowledge of healthful substitutes for valuable articles of food, it is declared, make attention to this factor especially important at the present time.

The Part of the Public Health Nurse in Child Welfare

By Helena R. Stewart, Ph. B., R. N., Director of Nursing Service,
Division of Public Health Education and Tuberculosis, State Department of Health

WHILE the work to be done for child welfare is unlimited, and while parts of the state are still to be reached, yet a very substantial beginning has already been made in Ohio.

The war has materially interfered with the development of the public health nursing service and even taken nurses from centers well established for which successors cannot be found to fill the vacancies. Still there are more than 400 of these trained workers who have the entrée to the homes and schools of the state, and are accomplishing a great deal toward the welfare of children.

We are constantly hearing from nurses in the state and it may be of interest to quote from four typical letters and reports which came to the office during the past week:

Training Schoolgirls

"Seven classes in practical home nursing lessons were begun during the past month. About 150 eighth grade girls *wanted* to join the class, and we finally, by drawing lots, started with fifty. The Care and Feeding of Infants will follow these lessons for those who have successfully completed the home nursing work. My 'Chase doll' is an attraction. She is being dressed in garments made by hand by the

class of freshmen girls who begged for the lessons."

A county nurse writes: "Just now I am thinking out the prenatal and infant care problem. I want to have a column each week in every paper in the county, if possible, and in this column to tell mothers that I am ready to help by sending literature or by going to them. I am trying to think of some way of having a steady supply of material for my papers and to get it in them all."

Defects Corrected

Another nurse reporting 1,050 school children examined in 1917 found 808 needing attention of some kind. She says: "The best part of the autumn's examining was the large number of children whose card showed a defect noted the year before, but examination proved it corrected by proper medical, surgical, or dental treatment."

Medical inspection came before school nursing, but it amounted to little until the systematic "follow-up" work was undertaken. To find a defect means little if the parents are not persuaded to have it corrected—if the child is not taken to the proper place to receive medical care and treatment—if the educational work in the homes is omitted.

Another nurse writes: "We shall soon be sending the 'Little Mothers' League' certificates for Dr. Freeman to sign. Some of my girls have written splendid essays on 'Baby Care or How to Keep the Baby Well.' We have helped to organize three parent-teacher associations this winter and while they are yet in infancy we hope that they will live and grow rapidly."

Little Mothers' Leagues

In many places where there are public health nursing centers, "Little Mothers' Leagues" are being established and the children are being taught how to care for a baby. The children are delighted to join these classes; and their new found knowledge is not limited to the children themselves, for it is taken back to the home and the parents. No one could estimate the value of teaching eighth grade and high school girls, who so often care for little brothers and sisters, the proper feeding of infants and simple rules of hygiene and health. Later when these children are real mothers they will not altogether forget the instructions received, and can take up their responsibilities with more intelligence than that which their parents possessed.

A successful public health nurse reaches so many different groups of people in her work that her opportunities for helpfulness are very great. She comes in touch with women's clubs and other private organizations, with boards of health and boards of education, with life insurance companies and social agencies, with city and county officials and chambers of commerce, with ministers, physicians and teachers. But best and most useful of all the nurse's opportunities

is her welcome in the homes of the people. She gains this welcome through her services in time of sickness, through her interest in and care of the children of the family.

Work in the Home Counts

"A pure milk supply alone is ineffective; the milk station (in itself little more than a bait to attract the mothers) and its conferences and clinics are insufficient. It is the *home* modification of milk, according to an individual formula, that counts. It is the *home* visit that gives the nurse an opportunity to teach the mother practically and thoroughly the entire infant regimen and care and, at the same time, the hygiene of home and family and particularly the hygiene of pregnancy."

Ohio's law in regard to the prevention of blindness caused by inflammation of the eyes of the newborn is closely patterned after the model law drafted by the American Medical Association and is said to be "one of the most advanced measures ever enacted in the United States for the prevention of blindness." According to this act, every case of inflammation of the eyes of the newborn must be reported immediately to the local health officer. If the case should come under the observation of a nurse, she too is responsible by law for the reporting of the condition. If the afflicted baby should be in a family where a private nurse cannot be employed, the health officer is instructed to call upon the public health nurse if he needs help for the treatment of the baby's eyes. If the little patient should be in a locality where there is no nursing service, by telephoning or telegraphing to the State Department of Health, a nurse can be obtained

to care for the baby's eyes and to teach the family the danger of the inflammation.

Community's Responsibility

If each community is to save its own babies — and this seems a reasonable program, then the responsibility of providing the means of child welfare work goes back to each local community. A state or

national department can arrange the program and stand ready to give advice to those who want it, but it cannot take the responsibility which belongs elsewhere. One important part of a program of child saving is supplying and employing public health nurses, for in the last analysis they are the workers who most easily and naturally reach the parents and the children.

The Organization of a Municipal Bureau of Child Hygiene

By Richard A. Bolt, M. D., Gr. P. H., Chief of the Bureau of Child Hygiene, Cleveland

Organization implies a dynamic relationship of parts. In a biological sense it means a co-ordination of organs to perform a distinct service for the good of the whole. The environment in which the organization is to perform its functions will naturally determine its structure. A very simple organization for child welfare may well meet the needs in a small homogeneous community. In a large city the hostile factors in the environment become more and more complex and call for other organs to cope with the situation.

If space permitted it would be interesting and profitable to trace the various steps in the development of modern infant welfare work in our great cities. With our present organization the campaign against infant mortality has settled down to a steady push along the whole line rather than in brilliant raids against "impure milk", poor housing, flies,

etc. We have come to realize that the factors entering into the infant welfare problem are not so simple as at first conceived.

Dr. Newman was perfectly correct when he said that the infant mortality in a community was the most sensitive index we possess of the social and economic conditions of that community. While milk stations and consultations for mothers rendered distinct service in educating the community to higher standards of milk for babies, it was early seen that without intelligent feeding directions of a competent physician and follow-up by nurses in the homes, much of the force in our infant work would have been lost.

It was perfectly natural that the simplest factors in the infant mortality problem should first be met and largely solved. We are now face to face with complex social and economic factors which, under

our present social organization, are extremely difficult to meet. The first thing for any community contemplating the organization of child welfare work to do is to line up its local problems and face them squarely with well tested methods. The experience of other communities should be carefully studied.

The infant welfare problems of small communities, or rural districts, must largely be solved by a co-operation on the part of interested individuals and existing private philanthropies. The public officials, too often apathetic, may be awakened slowly if they are "shown". In a large city like Cleveland the organization of a Bureau of Child Hygiene must be planned upon broad lines. Such an organization will not be an overnight growth. Many of the parts which are now so well integrated were adjusted only after much experiment and painstaking endeavor on the part of philanthropic individuals or societies.

It is often the history of infant welfare work that three or four organizations carrying on cognate lines of work for children gradually converge until their functions blend and a new organization becomes inevitable. This has been the case in Cleveland, where the pioneer efforts of the Milk Fund Association, the Visiting Nurse Association and the Infants' Clinic resulted in the organization of the Babies' Dispensary and Hospital. A decade of education along child welfare lines in Cleveland has convinced the community that the municipality is largely responsible for the welfare of its children, and that the city should carry on definite work along preventive lines for its babies and older children.

To carry out the most effective work in large centers it is essential

that the work be centralized in a Bureau or Division of Child Hygiene under the Division or Board of Health. The administrative head should be a chief on full time who is directly responsible to the commissioner of health. It is desirable that the chief of the bureau be in close touch with the health educational work of the community, and active in the instruction of physicians and nurses along child welfare lines. The further a Bureau of Child Hygiene can be removed from any political influences the better for the community. It would be ideal to have every member of the bureau working under efficient civil service.

In order to keep in touch with the daily work in the infant welfare centers throughout the city it is advisable to have an assistant chief who could devote a large share of his time to visiting the centers. The backbone of any infant welfare organization will be well trained physicians and nurses with a "vision" as well as a "feeling" for social service. The importance of training physicians in modern methods of infant feeding and child hygiene cannot be over-estimated. The public health nurses should be on full time and, whether doing "generalized" or "specialized" nursing in the districts, should be kept in touch with advances in the work by courses of lectures.

With a good corps of nurses and physicians, and an adequate office force to keep up the records, the following organization of departments under the Bureau of Child Hygiene should meet the needs of a modern city:

1. *Infant Welfare Centers* as integral parts of the health centers in each health district, to be equipped as prophylactic babies'

dispensaries for weighing babies, keeping careful records, examination by physicians, directions as to feeding and general hygiene of infancy. Public health nurses in attendance who follow the babies in their homes. Milk prescribed from the centers. These centers could also be used as diagnostic clinics. All ill babies to be referred to private physicians or suitable hospitals and dispensaries for treatment.

2. *A Department for the Inspection and Supervision of Midwives.* One nurse should be placed in charge of this important work. All problems coming up in regard to illegal practice should be taken up with the chief of the bureau or commissioner of health.

3. *Department for the Prevention of Infant Blindness.* Special nurses should be delegated to this work. The number of nurses will depend upon the size of the community and the character of the physicians and midwives in it.

4. *Department of Boarding Homes for Babies.* At the present time this department is a necessity in every large cosmopolitan city. One or more nurses should be assigned to make investigations of boarding homes and keep in very close touch with them. Co-operation with the Humane Society, or other agencies receiving young children, is essential.

It may be wise, as we have thought in Cleveland, to combine the work of (2), (3) and (4) into one Department of Eye, Midwifery and Boarding Homes for Babies.

5. *Some department or individual who can check up on the Milk Supply* going to the babies in the infant welfare centers.

6. *Medical Inspection* and examination of all *school children*. In Cleveland the medical inspection

in the public schools is carried out through the board of education. The public health nurses under the Division of Health, however, inspect the children in seventeen parochial schools.

7. *Sanitary and hygienic supervision of institutions taking dependent or delinquent children, or of day nurseries.* While this is not carried out in Cleveland to any great extent at present, it is felt that this phase of the work should be developed.

8. *A Department of Maternity Welfare or Prenatal Care* for the examination and instruction of mothers, or expectant mothers, is absolutely necessary if we are going to make any impression upon the appalling number of deaths during the first days of life. Cleveland is just beginning this important piece of work.

In all of our organization it should never be lost sight of that the Bureau of Child Hygiene is simply one of a number of bureaus operating under the Division of Health for the welfare of the community. The Bureau of Child Hygiene must constantly co-operate with all the other bureaus. Its aims and problems should frequently be discussed with the other bureau heads.

It is furthermore necessary never to get out of touch with private philanthropies and other organizations doing similar work for children of the community. The closest possible co-operation should be cultivated with babies' dispensaries, mothers' clubs, Federation of Women's Clubs, the public schools, etc., etc. After all it is the community which needs and demands the sort of work the bureau is attempting to do, and the community should accordingly be educated to back up this work.

Child Hygiene Activities of Municipal Health Departments of Ohio

What is being accomplished by Ohio cities which have organized work in child hygiene under bureaus within their municipal health departments is outlined in the series of accounts for separate cities presented herewith. The information contained in these sketches was furnished by health officials of the cities in question in response to requests from the State Department of Health. Dr. Richard A. Bolt's article on "The Organization of a Municipal Bureau of Child Hygiene," contained in this issue, while it deals with such organization in general, yet touches in some detail upon Cleveland's activities.

For other cities the accounts follow:

A REVIEW OF CHILD HYGIENE DURING THE PAST TWO YEARS IN CINCINNATI

Abstract of a Report by W. H. Peters, M. D., Chief Medical Inspector,
Cincinnati Department of Health

INFANT WELFARE

Nine infant welfare centers were operated by the health department during the summer under the supervision of the school nurses. Clinics and mothers' conferences were conducted at the centers by the district physicians. In thousands of home visits the nurses taught mothers how to care for their babies, how to prepare and modify milk and how to bring about the best possible home environment. The conferences with the district physicians resulted in surgical correction of many physical defects. Milk distribution was conducted from the nine centers.

BABY WEEK

In Cincinnati's observance of the nation-wide Baby Week, numerous medical, civic and welfare organizations co-operated with the health department. Features of the week's program included special window displays by department

stores, showing of approved child-welfare motion picture films, formal opening of the nine milk stations and baby clinics and holding of the annual Better Babies' contest, in which 900 children between the ages of one and four years were examined by the district physicians, assisted by a corps of nurses from local hospitals. Examinations were private. Efforts were made to emphasize educational rather than competitive features of the contest.

CHILDREN OF PRE-SCHOOL AGE

The child welfare bureau, directed by Dr. Wade MacMillan, has charge of this work. Its staff comprises a surgeon experienced in orthopedics and the surgery of childhood, a physician experienced in childhood diseases, an eye, ear, nose and throat specialist; a nurse from the department of health and two volunteer social workers. Weekly meetings are held in school

buildings, to which mothers of the neighborhood are urged to bring their children of pre-school age. Examinations are made in the presence of the mother, diseases and defects are explained in simple terms and medical attention by a private physician or a clinic is advised. Cases are followed up to see if this advice is heeded.

SCHOOL HYGIENE

Health promotion among school children and teachers is a function of the health department co-operating with the board of education. A medical bureau exists in 118 public and parochial schools and is supplemented with nursing service in sixty-eight.

Sanitary inspections of all schools are made twice a year by physicians and from time to time by the division of sanitary inspection. Passing of a physical examination has been made a prerequisite for the granting of a teacher's certificate by the Cincinnati school examiners.

VACCINATION

Vaccination of school children is compulsory. There was little objection to this regulation.

EXAMINATION OF SCHOOL CHILDREN

Medical examination is made of every child who returns to school after an absence of four consecutive days. From September 15 to December 20, 1917, forty-three diphtheria cases were disclosed in examination of 400 throat cultures from such absentees. Scarlet fever is also detected in such examinations. Physicians examine all children referred to them by principals, teachers or nurses, and make routine examination of all children in the second grade, in order to detect physical defects. Nurses make classroom inspections

for the detection of pediculosis. Figures show better results from examinations in schools which have nursing service than in those which have no nurses. They also show an increase from year to year in the number of cases referred by teachers to physicians.

RETARDATION STUDY.

Medical examination and study of 2,434 of the 4,738 children who were not promoted in June, 1915, gave valuable data. At a cost of \$30 per pupil per year, the cost to the community, if ratios in this group applied to all failures, was \$275,000 for this one year's failures. Of the children examined, 1,236 had marked physical defects, and 220 were tentatively classed as mentally deficient. Poverty and bad home conditions were also an important cause of retardation. Recommendations include: Establishment of a hospital school for children with chorea, epilepsy and tuberculosis of the bones and joints; opportunity classes for slow and backward children; compulsory attendance during the first two years; prompt reference of backward children to the school physician before failure occurs.

CONSERVATION OF VISION

Three special classes have been established for "partially blind" and "partially sighted" children and a fourth is to be organized. The object is to teach these children as seeing children and rescue them from lives of blindness and dependency. Physical examination was made of all children in the schools for the blind and conservation of vision classes. The board of education has employed a visiting oculist. Statistics on children in the conservation of vision classes show that the aver-

age retardation was reduced from three years in 1915 to 1.6 years in 1917 and that the proportion of children not retarded was increased from nine percent in 1915 to thirty-two percent in 1917.

OPEN-AIR SCHOOLS

Four open-air schools were attended by 114 children, who were admitted after physical examination by district physicians. In co-operation with the board of education, the health department selects the children most in need of open-air treatment. Active cases of tuberculosis are not accepted. A fifth school was opened in September, 1917. A school for tuberculous children is situated on the grounds of the municipal tuberculosis sanatorium, with accommodations for fifty resident pupils.

MOUTH HYGIENE—FREE DENTAL CLINICS

Four public school dental chairs were operated on full time. In twenty dental inspections by volunteer dentists, ninety-three percent of 10,981 children examined were found to have defective teeth. Lectures on care of the teeth were given to pupils in seventy-six schools and thirty-nine such talks were given to parents' and teachers' associations. Use of tooth brushes was encouraged.

CHILD WELFARE WORK IN DAYTON

By DR. A. O. PETERS, *Commissioner of Health*

This work was begun about twelve years ago by an organization known as the "Flower and Fruit Mission." This organization has since become known as the Visiting Nurses' Association. The work was started with the organization of a free clinic and milk

LITTLE MOTHERS' LEAGUES

During the past two years 2,400 girls in thirty-one schools have been enrolled in these leagues. The weekly meetings are usually restricted to girls in the seventh and eighth grades. The work covered is similar to that usually done by these leagues.

HEALTH CERTIFICATES

District physicians, in accordance with state laws, examined 3,990 children who applied for work certificates. Recommendation is made that funds be provided to put this work under one physician in a central office.

CO-OPERATION

Co-operation between the school officials and teachers and the health authorities has always been complete.

THE STAFF—COST

The staff consisted of fifteen district physicians, fourteen school nurses, eight dentists, five dental clinic assistants and the chief medical inspector. With the exception of four district physicians and the dentists (who work on half-day shifts), all are full-time employees. The estimated expenditure for school hygiene was approximately \$25,500 per annum.

station. At the same time a visiting nurse was employed to work in this field. In 1914 the Visiting Nurses' Association allied itself with the Division of Health and the Tuberculosis Society.

As now organized all our nursing activities of these three organ-

izations are carried on under the supervision of a committee representing the three organizations.

The amount of time given to infant welfare work is about that which represents the activities of four nurses. During the summer time three milk stations are maintained in different parts of the city in addition to the one conducted all year around at the health department.

During the earlier years of these activities, attention was especially directed to providing milk properly modified for children's needs. During the last few years these activities have been gradually changed to teaching people to do for themselves. At the present time more than one half of our efforts are directed toward teaching the mother and the family not only how to prepare milk for the children but to care for them in other ways. Thus, we have largely changed our work from the proposition of doing things for people to helping them do for themselves.

Every year we conduct child welfare exhibits either in the center of the city or in some place in

the outside district. Four such were conducted in 1917.

Some of the results of this work are shown in the following tables:

INFANT WELFARE CALLS — 1917

Nursing	3,341
Instructive	3,321
Investigation	5,487

MILK STATIONS AND CLINICS

Babies attended	404
Feedings distributed	7,428

IN HOMES

Babies attended	498
Milk distributed (part value collected)	13,290 pts.

The results of this work are shown in the influence upon the death rate of infants under 1 year:

Year	No. Deaths	Rate
1912	296	114.3
1913	322	124.0
1914	270	95.8
1915	227	87.6
1916	303	98.4
1917	306	97.6

The Visiting Nurses' Association employs seven nurses and one supervisor, the Anti-Tuberculosis Society employs two nurses and the Division of Health employs seven nurses.

CONSERVATION OF INFANT LIFE IN AKRON

By MISS OLIVE E. BEASON, *Director, Division of Public Health Nursing, Akron Health Department*

Akron's "Well Baby Clinics," have been established in the public school buildings and our first clinic was opened last April, at the Bowen school. With the closing of schools in June, two other clinics were opened, at the Allen and Lane schools, and all efforts of the nursing staff during the summer months were concentrated upon the three baby clinics.

The work was in distinctly foreign sections and the nurses were

regarded somewhat suspiciously until they had proved they were worthy of confidence.

During June, July and August, 270 babies under two years of age were registered in the clinics. Three deaths occurred from this number, one from brain ulcer, one from spinal meningitis and one from intestinal disturbances. Thirty-two cases of diarrhoea were cared for by the nurses. Our records show families of twenty-seven

different nationalities were represented at the three stations during the summer months.

While the work of the clinics is primarily to teach mothers how to keep the "well baby well," during the summer months all sick babies were given attention and all cases needing hospitalization were sent to the Children's Hospital. Mothers were encouraged to bring their children of pre-school age to the clinics and this was found to be a very interesting phase of the summer's work. The Little Mothers' Clubs were held throughout the summer and were active in our "Well Baby Campaign."

With the reopening of schools in September, clinics were continued in all stations but home instruction was eliminated to some

extent because of time given to school medical inspection work, it not being possible with the present size of our staff to assign nurses to infant welfare work only. Three hundred and fifty-seven babies under two years of age are now under supervision in the baby clinics. Sixty-five prenatal cases have been given instructive care through the medium of the dispensary physicians and nurses.

While looking upon our first summer's campaign as a mere beginning for much larger work, results prove it was quite worth while. Requests have been made for the establishment of baby clinics in East Akron and South Akron, two of our busiest industrial districts. It is our plan to enlarge upon the work this coming summer.

TOLEDO'S CHILD HYGIENE WORK

Child hygiene work in Toledo is carried out by the Toledo District Nurse Association, acting under the direction of the commissioner of health.

The District Nurse Association, of which Miss Emma E. Roberts is superintendent, is a private organization but works in close co-operation with the municipal health authorities. Nursing work is divided in such a way that each of the two agencies has its own par-

ticular field, child hygiene falling under this arrangement to the district nurses.

A number of baby clinics are maintained, and this number is to be increased during the coming summer to aid in the national child conservation campaign. The clinics this year will also be thrown open to children from two to five years of age as well as to babies under two. Additional nurses are to be employed this summer.

Ask Health Officers' Aid

To guard against souring of milk during the summer, the dairy division of the bureau of animal industry of the United States Department of Agriculture is requesting health officers to aid it in distributing among dairymen posters giving directions for the cooling of milk on the farm.

War Increases Ophthalmia Neonatorum

Ophthalmia neonatorum increased last year in the British Isles from 6,806 to 7,613. The rise is attributed to the increase in venereal infections resulting from the war and to the depletion in the ranks of the physicians, which makes careful attendance at births less frequent than in time of peace.

The Discharged Tuberculous Soldier in Ohio

By Robert G. Paterson, Ph. D., Director, Division of Public Health Education and Tuberculosis, State Department of Health.

DR. W. J. KERR, health officer of Newcastle-upon-Tyne, England, has published a summary of tuberculosis statistics of that city for the past five years. His figures show that the number of deaths from pulmonary tuberculosis has increased both numerically and relatively since the outbreak of the war. The number of deaths in 1913 was 326; in 1916, 407; and for the first six months of 1917, 246 deaths were reported.

"Dr. Kerr calls attention to the fact that all European nations concerned in the war, whether as active belligerents or those whose territory has suffered, show an alarming increase in deaths from tuberculosis in the civil population. He gives the first place among conditions leading to tuberculosis to poverty, followed by bad or insufficient housing and, third, overstrain."

This statement by Dr. Kerr concerns the increase of tuberculosis in the civilian population. A large body of literature has grown up within the past three years which relates to the increase of tuberculosis in the military population of countries at war. It is this latter phase of the tuberculosis problem which is daily assuming greater proportions in Ohio. Our success or failure in meeting the problem of the discharged tuberculous soldier promptly and efficiently will be the measure of success we have as a

state in meeting the problem of tuberculosis in our civilian population. The first question is, obviously, "What is the size of the problem?" the second question, "How are we organized to meet the problem?" and the final question, "What is necessary to meet the problem?"

The Size of the Problem

The State Department of Health receives reports of Ohio men discharged from military service on account of tuberculosis from the disability board at Camp Sherman, Chillicothe, Ohio, and from the National Association for the Study and Prevention of Tuberculosis, which is the clearing house used by the Surgeon-General's Department. The first report was received by the State Department of Health on October 29, 1917. Total reports received by months to March 1, 1918, were as follows: October 6, November 0, December 82, January 146, February 45. The system for securing reports began systematically in December. It is obvious that all of the men in the military service have not been covered as yet and that the foregoing figures do not serve for more than an indication of the tuberculosis problem among men of draft age.

The State Department of Health has not received reports from the local draft boards covering men rejected because of tuberculosis nor from the special district appeal

boards. Consequently, no one as yet knows the role which tuberculosis has played in reducing the number of men of draft age available for military service. Furthermore, it is to be expected, if we can judge from the experience of the countries which have been at war for the past three-and-a-half years, that a large number of men who have passed the examinations of the local and district draft boards and the special disability boards will develop tuberculosis under the conditions of actual trench warfare.

It is fair to say that the reports which the State Department of Health has received thus far are merely indices of the ultimate size of the tuberculosis problem in the military population.

Organization to Meet the Problem

Plans for meeting this problem on a national scale have been made on the basis that the official state health organization—the State Department of Health—should have the first responsibility in the matter; if this organization is unable to meet the responsibility then the State Anti-Tuberculosis Society should assume it and in the event of this society being unable to do so, then the American Red Cross divisional organizations should undertake the work.

In Ohio the State Department of Health has assumed the responsibility for meeting the problem. Throughout the state there has grown up during the past seven years a systematically organized local public health nursing service. There are approximately 400 local public health nurses employed in sixty-nine nursing centers. All of these centers are in sympathetic working co-operation with the Bureau of Public Health Nursing

maintained by the State Department of Health. The most important agency which the health organization has at its command to meet the problem of the discharged tuberculous soldier is the public health nurse. All of the other machinery which has been developed to handle tuberculosis in the civilian population is dependent upon a local public health nursing service.

The first step then in organization must be to secure local public health nurses to visit, advise and plan for the care of the discharged tuberculous soldier. Of the total 279 reports received from October 29, 1917, to March 1, 1918, 195 have been referred to local public health nurses. In each case these nurses secure systematic information as indicated on a special report blank sent with the notification. This report blank, when completed, is returned to the State Department of Health. There are eighty-four reports of discharged tuberculous soldiers who live in communities without local public health nursing service. In these cases the State Department of Health has sent nurses from its own bureau. So that every man, resident in Ohio, who has been discharged from military service on account of tuberculosis will be visited at least once by a public health nurse, either from a local or a state nursing service.

The next step in organization must be to secure hospital or sanatorium care for those men who desire such treatment or whose home conditions make such treatment advisable. Most of the men indicate a desire to enter such institutions but our hospital facilities are woefully inadequate to accommodate even the civilian population. There are twelve tuberculosis institutions

in Ohio with a total bed capacity for 1,500 patients. Practically all of these institutions are full and have waiting lists. Of the 279 reports of discharged tuberculous soldiers received, five men have been admitted as patients to these institutions and approximately twelve men have their applications for admission on file and are waiting for a vacant bed. It is to be presumed that the number of men who desire institutional treatment will constantly increase as the size of the problem continues to grow.

How to Meet the Problem

The State Department of Health knows full well that this problem must be met either by the State of Ohio or by the Federal government. It knows that the two agencies upon which we must depend are to increase the public health nursing service and the number of institutional beds. Tentative steps were taken to discover whether the State of Ohio itself, the state and the American Red Cross in cooperation or the Federal government could and would assume responsibility for meeting the problem. The following correspondence with the Federal government indicates that it disclaims any responsibility in the matter:

MARCH 1, 1918.

Re: Tuberculous soldiers.

HON. NEWTON D. BAKER,
Secretary of War,
Washington, D. C.

MY DEAR MR. BAKER:

I desire to call your attention to a condition now existing in the Army in which it seems to me a grave injustice is being done to certain soldiers.

This Department has received from the Red Cross, the National Association for the Study and Prevention of Tuberculosis and the Disability Board at Camp Sherman, the names and addresses of two hundred and seventy-

nine soldiers who have been discharged from the National Army or the National Guard on account of tuberculosis. We have endeavored to get in touch with all of these men, sending one of our nurses to visit them, wherever possible, and to find out from them what possibility there is of their securing the necessary treatment for their condition. From most of the men so far communicated with we have received very distressing stories. Almost all of them are without means and but few are able to secure sanatorium treatment.

Of the two hundred and seventy-nine men referred to above, our records show that so far only five have been admitted to tuberculosis sanatoria. The military authorities seem to have assumed, up to this time, that this disease existed in these men prior to their enlistment and that for that reason the Government had no responsibility for their care. They have accordingly been summarily discharged and sent home. While it is true, of course, that some of these men would, if allowed to remain in civil life, have developed tuberculosis, the history of a number of cases which we have investigated would seem to indicate that a healed or quiescent lesion which would undoubtedly have given no trouble under ordinary conditions of civil life has been lighted up by the unusual exertion of the intensive training, and that these men have tuberculosis at present, therefore, because of their military service.

I feel very strongly that the Government should do something more for these men, who have given their health for its service, than merely discharge them without further consideration. Many of them can be restored to health if treatment is begun promptly and the lives of all can be prolonged and the danger to their families greatly diminished if they can receive sanatorium treatment.

Would it be possible to retain these men in the service, sending them to an institution for treatment, and continue their dependency allowance until they are at least able to return to their ordinary occupation in civil life?

The problem is, of course, a large one and its solution will be difficult and expensive. I believe, however, that it is a proper charge against the military establishment of the United States and that its solution should be undertaken along with the other large problems that have been so successfully solved by your administration.

I shall appreciate hearing from you in regard to this matter.

Respectfully,

(Signed) A. W. FREEMAN,
Commissioner.

Copy to Surgeon-General William C. Gorgas, Medical Corps, U. S. Army, Washington, D. C.

Copy to Mr. James R. Garfield, Lake Division, American Red Cross, 929 Garfield Building, Cleveland, Ohio.

WASHINGTON, D. C., March 6, 1918.

DR. ALLEN W. FREEMAN, *Commissioner,*
State Department of Health,
Columbus, Ohio.

DEAR DR. FREEMAN:

In reply to your letter addressed to General Gorgas, in which you enclose a letter addressed to the Secretary of War, the Surgeon-General directs me to say that it is not understood why the fact that a man is discovered to have tuberculosis should make any considerable difference in his health. The men who were rejected for tuberculosis were at the time serving in the ranks and it was only discovered by means of physical examination; they were not sick in hospital or broken down, as a rule; and though you state you have evidence which points to the fact that quiescent lesions have been lighted up by the exertion of intensive training, the facts in many other instances would seem to show that this is rarely the case. The man who has active tuberculosis will do badly in the army, as he will everywhere if he does not rest. It is not fair to charge the army with the sole responsibility of his state. It is believed that these men discharged for tuberculosis were in practically the same condition before they entered the service that they were after they entered it, except that being aware that their cases are known, they do the best they can to secure assistance. That is only natural and allowance should be made for it.

What can be done with this class of patients is a matter which is regulated by law and is not under the control of the Secretary of War nor the Surgeon-General. The situation is very confused at the present time on account of the fact that the Bureau of War Risk has been charged with a certain responsibility. Just what it is going to do is not known.

Yours very truly,

(Signed) G. E. BUSHNELL,
Colonel, U. S. Army, Retired.

As a result, the State of Ohio is face to face with the decision whether to ignore the situation entirely or whether it is to assume the full responsibility for the situation. In the event that the latter decision is made it will mean the appropriation of \$50,000 for the erection of a cheap type of building somewhere in Ohio, preferably on the grounds of the Ohio State Sanatorium, Mt. Vernon, Ohio, to accommodate 100 patients; \$40,000 for maintenance, and \$10,000 for additional public health nurses to devote their entire time to the problem of the discharged tuberculous soldiers. The State Department of Health is now taking steps to see to what extent the State of Ohio itself can meet the problem.

BABY MORTALITY GAINS REPORTED IN GERMANY

War conditions are bringing heavy increases in infant mortality in Germany. The following figures are quoted by the Berlin *Vorwaerts* from the records of the Berlin statistical office:

Number of Infant Deaths Per 100 Births

1915.		1916.	
Sept.	9.62	Sept.	11.62
Oct.	9.25	Oct.	10.25
Nov.	9.85	Nov.	11.63
Dec.	14.14	Dec.	13.05
1916.		1917.	
Jan.	10.89	Jan.	14.64
Feb.	11.92	Feb.	14.93
March	13.04	March	14.01
April	11.10	April	12.70
May	11.39	May	12.65
June	11.72	June	13.52

The total number of baby deaths in recent months has been lower than it was two years ago, but this is explained by the fact that the birth rate has fallen off tremendously.

Why Ohio's Babies Die

THE FOLLOWING table shows the average annual death total of children under one year old in Ohio, for the years 1909-16, grouped by causes:

General diseases	975
Diseases of nervous system	383
Diseases of circulatory system	77
Diseases of respiratory system	1,553
Diseases of digestive system	2,745
Diseases of genito-urinary system	55
Diseases of the skin	36
Diseases of the bones	11
Malformations	748
Early infancy	3,446
External causes	241
Ill-defined and unknown causes	176
Total, all causes.....	10,448

Among the general diseases, whooping cough ordinarily leads in death total. Other important

causes in this group are tuberculosis, syphilis, measles and diphtheria and croup.

Of the diseases of the nervous system, meningitis and convulsions are the most important.

Pneumonia, in the respiratory system group, is one of the most fatal diseases among babies, causing well over 1,000 deaths yearly. Bronchitis, also in this group, is also important.

Diarrhoea and enteritis, in the group of diseases of the digestive system, kill more babies than any other disease, taking a toll of from 2,000 to 2,500 annually. Hernia and intestinal obstruction are rather important causes of death in the same group.

The group headed "early infancy" includes premature birth, congenital debility, injuries at birth and other causes peculiar to early infancy.

NUMBER OF DEATHS IN OHIO FROM ALL CAUSES, 1909-1916:

Age	1909	1910	1911	1912	1913	1914	1915	1916	Total	Average
Under one year	10,396	11,463	9,922	9,935	11,014	10,131	9,677	11,049	83,587	10,448
Under five years	14,039	15,984	13,747	14,105	15,613	13,517	13,106	15,349	115,460	14,432
All ages	60,731	65,532	63,385	65,411	68,399	65,077	66,067	74,230	528,832	66,104

Medical Examination of Food Handlers

Medical examination of 1,748 food handlers in New York City disclosed ten cases of active tuberculosis, twelve suspected and three arrested cases of the same disease, and forty-one cases of syphilis, of which thirty-seven were among

waiters and four among waitresses. These results, says a comment on the examinations, show that the law requiring examination to show freedom from infectious diseases in food handlers "Not only protects public and individual health, but is a great educational health force in the community."

State Quotas of Babies to be Saved in Children's Year Campaign

The apportionment among the states of the 100,000 babies to be saved in the Children's Year campaign is shown in the following table; quotas are based upon population under five years old, as shown by the 1910 census:

	<i>Population under five 1910 census</i>	<i>Quota of lives to be saved</i>		<i>Population under five 1910 census</i>	<i>Quota of lives to be saved</i>
Total	10,631,364	100,000	Virginia	268,825	2,529
Maine	71,845	676	West Virginia ..	169,118	1,591
New Hampshire ..	39,581	372	North Carolina ..	332,792	3,130
Vermont	34,171	321	South Carolina ..	228,459	2,149
Massachusetts	328,886	3,094	Georgia	376,641	3,543
Rhode Island	54,098	509	Florida	96,956	912
Connecticut	112,244	1,056	Kentucky	294,503	2,770
New York	898,927	8,455	Tennessee	294,591	2,771
New Jersey	266,942	2,511	Alabama	311,716	2,932
Pennsylvania	884,270	8,318	Mississippi	259,661	2,442
Ohio	479,475	4,510	Arkansas	230,701	2,170
Indiana	275,524	2,592	Louisiana	224,069	2,108
Illinois	597,969	5,625	Oklahoma	241,904	2,275
Michigan	298,554	2,808	Texas	538,984	5,070
Wisconsin	256,171	2,410	Montana	38,323	360
Minnesota	226,840	2,134	Idaho	40,444	380
Iowa	236,063	2,220	Wyoming	15,331	144
Missouri	360,503	3,391	Colorado	82,562	777
North Dakota	82,399	775	New Mexico	45,285	425
South Dakota	73,489	691	Arizona	24,778	233
Nebraska	140,096	1,318	Utah	52,698	496
Kansas	191,519	1,802	Nevada	6,383	60
Delaware	20,045	188	Washington	108,756	1,023
Maryland	137,714	1,295	Oregon	60,211	566
District of Col..	26,669	251	California	193,659	1,822

SCHOOL EPIDEMIC SCATTERS SCARLET FEVER OVER OHIO

Twenty-one potential sources of scarlet fever infection came into Ohio in February, when more than 100 boys, students at Mercersburg Academy, Mercersburg, Pa., left that institution for their homes in several states after fifteen cases of scarlet fever had broken out among the student body.

The twenty-one boys who came to Ohio represented fourteen different towns and cities scattered over the state. A list of the Ohioans, with their respective residences, was furnished to the State Department of Health by the Pennsylvania health department.

The Ohio department, in turn, transmitted to the health officer of each of the fourteen municipalities involved a list of the exposures in his jurisdiction.

Cases were investigated by the municipal health officers, but of those who reported their findings back to the State Department of Health, only one announced that he had found a positive case.

Following investigation of reports that the boys had been sent home by the school authorities and had not fled to escape quarantine, as first information indicated, the Pennsylvania authorities stated that the officials of the school had probably been guilty of a technical violation of the quarantine law.

Ohio Mortality Statistics, November and December, 1917

*Furnished by DR. J. E. MONGER, Registrar, Bureau of Vital Statistics,
Department of State.*

NUMBER OF DEATHS AND MONTHLY DEATH RATE PER 1,000 POP-
ULATION, IN EACH COUNTY OF OHIO, FOR NOVEMBER
AND DECEMBER, 1917

Counties	November		December		Counties	November		December	
	Deaths	Rate	Deaths	Rate		Deaths	Rate	Deaths	Rate
Adams	24	.9	22	.8	Logan	27	.9	26	.9
Allen	63	1.0	77	1.2	Lorain	77	.8	91	1.0
Ashland	15	.6	20	.8	Lucas	295	1.3	288	1.3
Ashtabula	62	.9	99	1.5	Mahoning ..	209	1.4	201	1.3
Athens	38	.7	71	1.3	Madison	14	.7	22	1.1
Auglaize	15	.5	24	.7	Marion	49	1.3	41	1.1
Belmont	82	.9	99	1.1	Medina	22	.9	30	1.2
Brown	17	.7	24	1.0	Meigs	36	1.4	33	1.3
Butler	78	.9	96	1.2	Mercer	23	.8	18	.7
Carroll	9	.6	8	.5	Miami	52	1.1	66	1.4
Champaign ..	22	.9	20	.8	Monroe	13	.5	19	.8
Clark	90	1.2	97	1.3	Montgomery..	283	1.5	267	1.4
Clermont	24	.8	32	1.1	Morgan	21	1.3	18	1.1
Clinton	23	1.0	26	1.1	Morrow	16	1.0	15	.9
Columbiana ..	88	1.1	113	1.4	Muskingum ..	54	.9	67	1.1
Coshocton	20	.7	32	1.1	Noble	12	.6	22	1.2
Crawford	28	.8	38	1.1	Ottawa	16	.7	18	.8
Cuyahoga	836	1.1	998	1.3	Paulding	14	.6	6	.3
Darke	36	.8	34	.8	Perry	21	.6	39	1.0
Defiance	17	.7	15	.6	Pickaway	23	.9	37	1.4
Delaware	26	.9	31	1.1	Pike	14	.9	11	.7
Erie	54	1.4	58	1.5	Portage	36	1.2	28	.9
Fairfield	35	.8	34	.8	Preble	26	1.1	22	.9
Fayette	23	1.1	24	1.1	Putnam	26	.9	17	.6
Franklin	298	1.1	327	1.2	Richland	45	.9	51	1.0
Fulton	21	.8	32	1.3	Ross	55	1.4	66	1.6
Gallia	32	1.2	43	1.7	Sandusky	32	1.2	29	1.1
Geauga	10	.7	12	.8	Scioto	61	1.1	72	1.3
Greene	20	.7	41	1.4	Seneca	38	.9	54	1.2
Guernsey	44	.9	46	.9	Shelby	24	1.0	31	1.3
Hamilton	584	1.2	691	1.4	Stark	187	1.3	208	1.4
Hancock	34	.9	34	.9	Summit	197	1.4	235	1.7
Hardin	31	1.0	25	.8	Trumbull	87	1.6	80	1.5
Harrison	18	.9	17	.9	Tuscarawas ..	52	.9	49	.8
Henry	21	.8	22	.9	Union	11	.5	24	1.1
Highland	32	1.1	29	1.0	Van Wert....	26	.9	24	.8
Hocking	21	.9	29	1.2	Vinton	8	.6	12	.9
Holmes	20	1.1	16	.9	Warren	29	1.2	24	1.0
Huron	34	1.0	35	1.0	Washington ..	31	.7	27	.6
Jackson	39	1.3	35	1.1	Wayne	44	1.2	42	1.1
Jefferson	75	.9	81	1.0	Williams	16	.6	22	.9
Knox	33	1.0	24	.7	Wood	39	.9	40	.9
Lake	31	1.3	29	1.2	Wyandot	12	.6	19	.9
Lawrence	57	1.4	61	1.5					
Licking	53	.9	67	1.1	Totals	5,606	1.1	6,299	1.2

NUMBER OF DEATHS AND MONTHLY RATE PER 1,000 POPULATION,
IN EACH OF THE LARGEST THIRTY-SEVEN CITIES IN OHIO,
FOR NOVEMBER AND DECEMBER, 1917.

Counties	November		December		Counties	November		December	
	Deaths	Rate	Deaths	Rate		Deaths	Rate	Deaths	Rate
Akron	138	1.5	145	1.6	Lorain	33	.9	41	1.1
Alliance	17	.9	35	1.8	Mansfield	17	.7	25	1.1
Ashtabula	22	1.0	26	1.2	Marietta ...	11	.9	8	.6
Bellaire	21	1.4	27	1.8	Marion	28	1.2	25	1.1
Canton	77	1.2	84	1.3	Massillon	19	.8	18	.8
Cambridge	14	1.0	13	.9	Middletown	29	1.8	19	1.2
Chillicothe	28	.9	27	.8	Newark	17	.5	37	1.2
Cincinnati	509	1.2	611	1.5	Norwood ...	17	.7	17	.7
Cleveland	742	1.1	874	1.2	Piqua	22	1.5	22	1.5
Columbus	254	1.1	274	1.2	Portsmouth	28	1.0	41	1.5
Dayton	181	1.3	168	1.2	Sandusky	27	1.3	26	1.3
E. Liverpool	36	1.5	36	1.5	Steubenville	37	1.3	49	1.7
Elyria	18	.9	17	.9	Springfield	69	1.3	73	1.4
Findlay	16	1.1	23	1.5	Tiffin	15	1.2	23	1.8
Ironton	25	1.8	30	2.1	Toledo	271	1.4	273	1.4
Hamilton	23	.5	39	.9	Warren	25	1.9	27	2.1
Lakewood	19	1.2	26	1.7	Youngstown	168	1.6	151	1.4
Lancaster	14	.9	9	.6	Zanesville ..	42	1.3	42	1.3
Lima	35	1.1	46	1.4					

Public Health Nursing Service

Report for January, 1918

	Home Visits	Other Visits	Number Patients Under Care	Number Nurses Employed
<i>Population 100,000 and over —</i>				
Cincinnati — Anti-Tb. League	787	140	1,177	7
Cincinnati — V. N. A.	2,191	....	569	12
Columbus — Anti-Tb. League	817	133	965	4
Columbus — V. N. A.	2,291	....	739	11
Dayton	3,363	....	1,294	14
Toledo .....	....	258	4,279	22
Youngstown	2,008	10	329	10
<i>Population 25,000 to 100,000 —</i>				
Canton	588	....	53	3
Hamilton	20	100	142	1
Lima	500	34	97	3
Lorain	198	2	25	1
Springfield — City Health Dep't.	156	10	96	1
Zanesville — Welfare Org.	112	35	66	1
Zanesville — Fed. of Women's Clubs	106	30	38	1

	<i>Home Visits</i>	<i>Other Visits</i>	<i>Number Patients Under Care</i>	<i>Number Nurses Employed</i>
<i>Population 8,000 to 25,000—</i>				
Ashtabula .....	....	180	90	1
Bellefontaine (half mo.)	85	23	39	1
Bucyrus	150	20	27	1
Cambridge	141	113	33	1
Delaware	135	35	18	1
Elyria	93	35	35	1
Lancaster	141	40	37	1
Marion	154	25	59	1
Massillon	285	51	72	1
Piqua	62	75	35	1
Portsmouth	592	98	345	1
Xenia	70	52	25	1
<i>Population 5,000 to 8,000—</i>				
Circleville	127	....	41	1
Norwalk	124	126	30	1
Ravenna	133	36	25	1
Sidney	114	75	23	1
Urbana	125	....	20	1
<i>Population 2,500 to 5,000—</i>				
Bryan	56	100	33	1
Cuyahoga Falls	64	48	....	1
Greenfield	56	47	23	1
Shelby	244	15	37	1
<i>Counties—</i>				
Franklin	25	38	34	1
Hamilton	30	40	182	1
Lake	34	24	22	1
Licking	56	54	50	1
Trumbull	126	84	139	1
Tuscarawas	56	124	36	1
	16,415	2,310	11,379	119

The 11,379 patients under care, except 1,324 given as "not listed", were grouped as follows, according to the nature of their cases:

<i>Communicable Diseases—</i>		
Tuberculosis		4,186
All others		54
<i>Maternity—</i>		
Prenatal		215
Postnatal		189
<i>Infants under two years of age (except eye)</i>		2,834
<i>Eye—</i>		
Infants under two years of age		23
All others		41
<i>Other Diseases—</i>		
Medical		1,771
Surgical		537
<i>Social</i>		205
Total		10,055

DEPARTMENTAL REPORTS BY DIVISIONS

DIVISION OF COMMUNICABLE DISEASES

Reported Cases of Notifiable Diseases, February, 1918

Prevalence. Table I following shows the February, 1918, total of 9,162 much lower than the totals for February, 1917, and 1916, 10,421 and 13,222 cases respectively. The February case rate per 1,000 population figures 1.7, the same as the January rate, compared with 2.0 and 2.6 for February, 1917, and 1916. The cities reported 5,089 cases, 56 per cent of the state total, the same proportion recorded for cities in January. In order of greatest reported prevalence for February the diseases list as follows: (1) measles 1,629, (2) smallpox 1,342, (3) German measles 1,165, (4) scarlet fever 994, (5) whooping cough 784, (6) mumps 726, (7) chickenpox 676, (8) diphtheria 562, (9) tuberculosis 548, (10) pneumonia 293, (11) ophthalmia neonatorum 148 and (12) typhoid fever 103 cases. For no other one notifiable disease was a total of 100 cases or more recorded for February. Seven cities, listed after Table II, failed to submit February reports by March 12. Reports were received from 93 per cent of all health districts by March 12.

Smallpox. The 1,342 reported cases of smallpox for February give a reduction of 700 cases from the total reached for January, 2,042. Jefferson, Meigs and Morgan counties, three of the nine counties from which no cases had been reported during the four months of the present epidemic, reported a total of 15 cases for February. With the exception of the several districts in these three counties no new foci were noted. Since October 1, 5,835 recognized and reported cases of smallpox have occurred within the state, a most inglorious record for health authorities to face.

Typhoid Fever. The 103 cases recorded show a marked decrease from previous years, a February case rate of .019 compared with .029 and .035 for February, 1917 and 1916. Cities reported 73 per cent of the cases for the month. Cleveland 5 cases, Ironton 4, Niles 9, Springfield 8, Wellsville 7, Youngstown 3, and Zanesville 17 give a total of 53 cases, the remaining 20 cases being distributed singly and in pairs in 14 cities as shown in Table II.

Meningitis, Cerebrospinal. Thirty-seven of the 43 reported cases of meningitis occurred in cities as follows: Akron 2, Alliance 2, Chillicothe 2, Cincinnati 4, Circleville 1, Cleveland 5, Columbus 4, Dayton 7, Findlay 1, Hamilton 1, Lima 1, Massillon 1, Niles 1, Sandusky 1, Springfield 1, Van Wert 1 and Youngstown 2 cases. Of the remaining six cases one each was reported from the villages of Crestline, Mingo Junction and Cuyahoga Falls, and one each from Bath Tp., Greene Co.; Harrison Tp., Montgomery Co., and Lake Tp., Stark Co.

Poliomyelitis. Two cases were reported from cities, Columbus and Warren reporting one each. Hartford village, Sandy Tp., Stark Co., and Independence Tp., Washington Co., reported the remaining three cases recorded for the month.

Table II. Commencing with January, the reported cases of ten notifiable diseases by cities with an aggregate case rate for each city have been recorded. The reported cases for cities are indicative of cases to be found in the surrounding county districts. That a city for successive months shows a low case rate does not necessarily mean that the city has been freer from notifiable diseases than other cities but on the contrary may mean lax health administration, and unreported cases with little or no protection of residents. Health officers are advised to watch the rates, to figure rates for the various diseases, to make comparisons and to present evidence that case reports are being received. In order that such a table may be as complete, accurate and useful as possible, health officers should comply with the request to have all reports submitted by the fifth of the succeeding month.

TABLE I.—REPORTED CASES OF NOTIFIABLE DISEASES, OHIO, FEBRUARY, 1916-1918, WITH DISTRIBUTION FOR CITIES AND FOR VILLAGES AND TOWNSHIPS, FEBRUARY, 1918, AND CASE RATES PER 1,000 POPULATION, FEBRUARY, 1916-1918.

Notifiable Disease	February, 1918			February, 1917	February, 1916	February Case Rates Per 1,000 Population		
	Cities	Villages and Townships	Total			1918	1917	1916
All Notifiable Diseases.	5,089	4,073	9,162	10,421	13,222	1.741	2.000	2.565
Chickenpox	393	283	676	1,153	637	.128	.221	.124
Diphtheria	463	99	562	490	697	.107	.094	.135
Gonorrhea	44	16	60	220	183	.011	.042	.035
Measles	836	793	1,629	4,413	6,954	.310	.847	1.349
Measles, German	339	826	1,165	134	92	.221	.026	.018
Meningitis, Cerebrospinal	37	6	43	39	17	.008	.008	.003
Mumps	305	421	726	371	297	.138	.071	.057
Ophthalmia Neonatorum	141	7	148	147	114	.028	.028	.022
Pneumonia, Acute Lobar	164	129	293	803	499	.056	.154	.097
Poliomyelitis	2	3	5	10	10	.001	.002	.002
Scarlet Fever	512	482	994	1,069	1,356	.189	.205	.263
Smallpox	760	582	1,342	214	219	.255	.041	.042
Syphilis	35	3	38	74	73	.007	.014	.014
Trachoma	11	10	21	25	35	.004	.005	.007
Tuberculosis, All Forms	474	74	548	567	582	.104	.109	.113
Typhoid Fever	73	30	103	152	182	.019	.029	.035
Whooping Cough	492	292	784	519	1,251	.149	.098	.243
Other Notifiable Dis- eases	8	17	25	21	24	.005	.004	.005

TABLE II. — REPORTED CASES OF TEN NOTIFIABLE DISEASES WITH CASE RATE PER 1,000 POPULATION BY CITIES, FEBRUARY, 1918

City	Total Case Rate Per 1,000 Population	Total Reported Cases.	Diphtheria	Measles	Meningitis Cerebrospinal	Pneumonia Acute Lobar	Poliomyelitis	Scarlet Fever	Smallpox	Tuberculosis All Forms	Typhoid Fever	Whooping Cough
Akron	3,333	303	36	59	2	2	...	41	92	26	...	45
Alliance	.200	4	...	...	2	...	...	...	...	...	1	1
Ashland	.101	1	...	...	...	...	...	...	...	1	...	...
Ashtabula	.135	3	...	1	...	...	...	1	...	1	...	...
Athens	.402	3	...	...	...	...	...	...	2	1	...	...
Barberton	2,336	32	3	...	...	...	...	2	27	...	...	...
Bellaire	1,008	16	1	3	...	1	...	3	...	3	2	3
Bellefontaine	5,040	48	...	41	...	1	...	...	1	1	...	4
Bellevue	.326	2	...	2	...	...	...	...	...	...	...	...
Bowling Green*	...	...	...	...	...	...	...	...	...	...	...	...
Bucyrus	1,590	15	1	6	...	3	...	2	2	1	...	...
Cambridge	.639	9	1	1	...	...	...	3	3	...	1	...
Canton	.570	38	6	4	...	1	...	11	13	2	1	...
Chillicothe	1,260	20	1	7	2	1	...	8	...	1	...	...
Cincinnati	.818	409	44	82	4	...	...	28	46	97	2	106
Circleville	.888	6	...	5	1	...	...	...	...	...	...	...
Cleveland	1,009	1,009	289	75	5	105	...	30	217	159	5	124
Columbus	1,404	351	4	111	4	...	1	112	48	27	...	44
Conneaut	.963	9	...	1	...	...	...	1	...	2	1	4
Coshocton	.328	4	1	...	...	...	...	...	3	...	...	...
Dayton	1,729	247	7	115	7	2	...	39	39	33	1	4
Defiance	.816	6	...	...	...	...	...	2	2	...	2	...
Delaware*	...	...	...	...	...	...	...	...	...	...	...	...
Delphos	.915	5	3	...	...	1	...	1	...	...	...	...
Dover	.655	5	...	2	...	3	...	...	...	...	...	...
East Cleveland	3,105	45	3	2	...	1	...	4	4	...	...	31
East Liverpool	1,290	30	...	14	...	...	...	3	9	2	2	...
Elyria	1,350	27	2	8	...	2	...	...	3	3	...	9
Findlay	.737	11	1	3	1	...	...	1	3	2	...	...
Fostoria	1,350	15	5	4	...	...	...	1	3	2	...	...
Fremont	.891	9	...	...	...	2	...	...	1	1	...	5
Galion	.417	3	...	...	...	...	...	1	2	...	...	...
Gallipolis*	...	...	...	...	...	...	...	...	...	...	...	...
Greenville	.292	2	...	1	...	...	...	1	...	...	...	...
Hamilton	.638	29	...	...	1	3	...	3	21	1	...	...
Ironton	.140	20	1	4	...	1	...	10	...	...	4	...
Jackson	.163	1	...	...	...	...	...	...	...	1	...	...
Kenton*	...	...	...	...	...	...	...	...	...	...	...	...
Lakewood	.842	21	2	4	...	5	...	5	2	3	...	...
Lancaster	2,745	45	1	32	...	1	...	2	3	5	...	1
Lima	2,550	85	4	26	1	...	...	8	44	...	2	...
Lorain	.675	27	5	...	...	5	...	3	11	1	...	2
Mansfield	2,322	54	2	24	...	1	...	...	2	2	...	23
Marietta	.134	2	1	...	...	...	...	1	...	...	...	...
Marion*	...	...	...	...	...	...	...	...	...	...	...	...
Martins Ferry	.388	4	3	...	...	...	...	...	...	1	...	...
Massillon	.384	6	...	...	1	...	...	2	3	...	...	...
Middletown	2,135	35	...	...	...	5	...	2	25	...	2	1
Mt. Vernon*	...	...	...	...	...	...	...	...	...	...	...	...
Nelsonville	.755	5	2	...	...	2	...	...	...	...	1	...

TABLE II. — REPORTED CASES OF TEN NOTIFIABLE DISEASES WITH CASE RATE PER 1,000 POPULATION BY CITIES, FEBRUARY, 1918 — Concluded.

	Total Case Rate Per 1,000 Population	Total Reported Cases.	Diphtheria	Measles	Meningitis Cerebrospinal	Pneumonia Acute Lobar	Poliomyelitis	Scarlet Fever	Smallpox	Tuberculosis All Forms	Typhoid Fever	Whooping Cough
New Philadelphia *												
Newark *												
Niles	1.650	15		1	1					4	9	
Norwalk	.819	7		4				2		1		
Norwood	2.009	49		29				5	1	3		11
Painesville	2.210	13		12				1				
Piqua	2.622	38		8		2		17	4	4		2
Portsmouth *												
Ravenna	.468	3	1						2			
St. Bernard	.316	2	2									
St. Marys	.664	4						4				
Salem	8.415	85		2				80		2		1
Sandusky	.637	13			1	2		1	5	4		
Sidney	.136	10	2					6	2			
Springfield	1.102	58	2	19	1	1		5	2	14	8	6
Steubenville	.595	17	1	8		1		5		2		
Tiffin	1.596	21		10					2	2	1	6
Toledo	1.085	217	13	62		3		29	48	37	1	24
Troy	.474	3	1						1	1		
Urbana	1.638	14		7		1		6				
Van Wert	1.548	12		8	1			2	1			
Wapakoneta	.306	2		2								
Warren	1.110	15	2				1	5	5	1		1
Washington C. H.	.585	5	2					2	1			
Wellston	1.160	8							8			
Wellsville	.990	9	1						1		7	
Wooster	1.449	9	2					3	4			
Xenia	3.680	32	2						30			
Youngstown	.954	106	5	27	2	6		8	12	10	3	33
Zanesville	.837	27								10	17	
Total	1,373	3,815	465	836	37	164	2	512	760	474	73	492

* Bowling Green and Kenton reported no notifiable diseases during February. From Delaware, Gallipolis, Marion, Mt. Vernon, New Philadelphia, Newark and Portsmouth no reports had been received to date of going to press.

DIVISION OF SANITARY ENGINEERING

Summary for February, 1918

Representatives of the division investigated twelve existing water supplies, four proposed water supplies and additional water supplies, five existing sewage disposal systems and four proposed sewerage and sewage disposal improvements.

Plans or revised plans were received for a proposed auxiliary water supply in Hamilton, for a proposed distributing reservoir in Dayton, for

the existing Milton Reservoir in Youngstown, for a proposed sewage treatment works at the Shaker Farm of the Dayton State Hospital, for proposed trunk sewer extensions and sewage treatment plant at Lebanon and for proposed sewer connections at Loveland Farms, Mahoning County.

Reports on revised general plans for the proposed West Fifty-eighth Street sewage treatment plant, Cleveland, and on a proposed water purification plant at Tiffin were submitted to the Commissioner of Health.

Ross Township centralized school, Greene County, was granted an extension of time to January 1, 1919, for installation of sewage treatment plant. The time for awarding contract for development of Hamilton's proposed additional water supply was extended to November 1, 1918.

Conferences with various city officials, engineers and other persons dealt with water supplies of Newark, Delaware, Ravenna, Salem, Cincinnati, Cleveland, Toledo and Dennison, with the Buckeye Land Company's East Youngstown development, Mahoning County; with the operation of Springfield's water disinfection plant, with school water supply in District 5, Salem Township, Columbiana County; with the B. & O. Railroad water supply at Newark, with the Akron sewage treatment plant and with contemplated storm sewers at Northfield, Summit County.

Approval was granted of samples of sand and gravel to be used in sewage filters at the Norwich Township school, Hilliard, Franklin County, and at the Shaker Farm, Dayton State Hospital.

Certificates of approval of railroad water supplies were granted in twelve cases and refused in five cases.

DIVISION OF PUBLIC HEALTH EDUCATION AND TUBERCULOSIS

February, 1918

Changes in Organization

Dr. R. G. Paterson assumed, temporarily, the position of Director of the division February 1.

Educational Work

Eight hundred and seven pieces of literature on twenty-six subjects were distributed. Five school lectures were delivered by Miss McNamara. The exhibit was in storage throughout the month. In the field of publicity, fourteen newspaper stories were released through the weekly News Letter and two otherwise, the News Letter stories reaching 600 papers, being used (one or more of them) in 168 papers in 78 counties and 135 towns and attaining a total circulation estimated at 5,500,000. Work was done on pamphlets on venereal diseases, smallpox and typhoid fever. Copy was prepared for Volume IX, Number 2, of the OHIO PUBLIC HEALTH JOURNAL.

Public Health Nursing Service

Two public health nurses—Miss Edith Treat, Ashland, and Miss Alice J. Wilkinson, Fostoria—resigned to enter the Red Cross Nursing Service, and one—Miss Helen T. Hayden, Mansfield—resigned to enter the Army and Navy Corps nursing service.

PREVENTION OF BLINDNESS

Number of Cases Reported.....	161
White	151
Colored	8
Unknown	2
Male	90
Female	67
Unknown	4
Reported by Physicians.....	49
Reported by Physicians and Nurses.....	3
Reported by Midwives.....	56
Reported by Nurses.....	41
Reported by Institutions.....	10
Reported by Laymen.....	1
Reported by Physicians and Institutions.....	1
Instruction to health officers by telephone.....	3
Number of cases investigated by this department.....	8
Number of cases provided with nursing care by this department.....	1
Number of cases reported as having impaired vision.....	2
Total loss of vision.....	1
R. E. totally blind.....	1
Number of outfits of prophylactic distributed.....	2,894

Letter Re Prevention of Blindness Law.

FEBRUARY 2, 1918.

DR. ALLEN W. FREEMAN,
Commissioner of Health.

DEAR DR. FREEMAN:

Pursuant to the conversation between yourself, Mr. Bauman, Miss Stewart and myself, of even date, concerning the practical operation of the law for the Prevention of Blindness from Inflammation of the Eyes of the New-Born, it is my understanding that in each and every case wherein there is a question of a violation of the law, that the State Department of Health will address a letter to the offending physician calling his attention to his violation and asking him for full and complete explanation of such violation; second, that in cases of flagrant violations of this law, that the State Department will proceed with the prosecution of the offending physician or other person; third, that some proper method of regular publicity will be undertaken by this department in order to spread the information as completely as possible concerning this particular law and its operation.

Very truly yours,

ROBERT G. PATERSON,
*Director: Division of Public
 Health Education and Tuberculosis.*

Tuberculosis Hospitals

Hospitals at Springfield, Lima and Springfield Lake were inspected by representatives of the Department. The Commissioner of Health and the Director of the Division of Public Health Education and Tuberculosis visited the last-named institution.

Admissions and Discharges

From February 1 to 28, inclusive, 241 notifications were received, 145 of which were admitted patients, 96 discharged patients. Of these, 177 were referred for investigation and report to local public health nurses; 3 were reported to other State Departments; 1 referred to local health officer; 23 were investigated by Division nurses; 15 were found whose histories were not obtainable, and 22 were pending investigation.

Of the 48 cases pending investigation February 1, 12 were investigated by Division nurses, 22 new pending cases were added, making a total of 58 cases pending investigation March 1, 1918.

Institution	Notifications			
	Total Number Patients Reported	Number of Admissions	Number of Discharges	Total Number Admissions and Discharges
Ohio State Sanatorium.....	54	30	25	55
Butler County Sanatorium.....	2	1	1	2
Franklin County Sanatorium.....	46	35	17	52
Lucas County Tuberculosis Hospital.....	22	18	9	27
Dayton District Hospital.....	6	3	3	6
Lima District Hospital.....	6	6	0	6
Springfield District Hospital.....	15	10	7	17
Springfield Lake Sanatorium.....	32	21	19	40
Rocky Glen Sanatorium.....	11	8	4	12
St. Anthony's Hospital.....	17	13	11	24
Total	211	145	96	241

Discharged Tuberculous Soldiers

Number of Notifications received.....	45
Number of Cases referred to P. H. N's.....	32
Number of Reports received from P. H. N's.....	61
Number of Cases written directly.....	1
Number of Cases pending in office.....	17
Number of Replies received.....	13
Number of Cases visited by Division Nurses.....	2
Number of Cases admitted to Hospitals.....	4
Number of Cases not found.....	24
Number of Cases not heard from.....	131

Beginning February 18, public health nurses in the Division were sent out to visit all discharged tuberculous soldiers who resided in territory not covered by local public health nurses.

DIVISION OF INDUSTRIAL HYGIENE

February, 1918

Recommendations were made to two manufacturing firms with a view to improving unhealthful working conditions. In one case workmen had been compelled to breathe arsenic, lead, soda ash and other poisonous dusts. Arrangements for carrying off smoke from the workroom, rearranging of toilets, hooding of forges and other health protective measures were made in the other case.

The Director of the division testified in regard to the effect of wood dust on health and the presence of wood dust in the plant of the Marion Steam Shovel Company, at a hearing before the Industrial Commission of Ohio on the company's appeal from the commission's order to install exhaust equipment to carry off wood dust.

At a conference with the Commissioner of Health, the scope of the division's authority and the advisability of co-operation with the Industrial Commission of Ohio, to the extent of establishing definite relations with the commission, were discussed.

Investigations regarding the causes of furunculosis and wound infection among lathe and screw-machine workers exposed to cutting compounds and cutting oils were continued. The complete report of this investigation will soon be forthcoming.

Information and a bibliography on the health of miners were furnished to the Ohio Health and Old Age Insurance Commission.

Plans of the United States Public Health Service for a campaign for the adoption of medical supervision by industrial concerns in Ohio were discussed with a representative of the Public Health Service.

The division aided in inspecting vaccinations of students applying for admission to the Ohio State University for the second semester.

DIVISION OF CHILD HYGIENE

February, 1918

The Director of the division delivered addresses before a group of county and city agents of the agricultural extension department of the Ohio State University, before a group of 300 men and women in Mansfield and before the Farmers' Institute at Bellville, Richland County, and discussed state and local child welfare problems with the child welfare committee of the Bellville community service organization and with groups of school teachers at Willoughby, Ashland, Nova, Newcomers-town and Coshocton.

In a conference with a representative of the Federal Children's Bureau, plans for the "Children's Year" were discussed.

The division aided in inspecting vaccinations of students applying for admission to the Ohio State University for the second semester.

Notifications received for February from maternity boarding-houses and lying-in hospitals were as follows:

Admissions	68
Births { Living	85
{ Stillborn	1
Removals { Mother	44
{ Child	47
Illegitimate births	21
Deaths { Mother	0
{ Child	12

DIVISION OF LABORATORIES

February, 1918

Examinations —

Bacteriological examinations —

Tuberculosis, pos. 104, neg. 255.....	359
Diphtheria, pos. 24, neg. 206, susp. 9.....	239
Typhoid, pos. 8, neg. 27, susp. 6.....	41
Rabies, pos. 7, neg. 4, susp. 4.....	15
Water	52
Misc.	3
Total	709

Chemical Samples —

Water	3
Sand (Mechanical analysis).....	2
Misc.	6
Total	10

Samples submitted by State Board of Agriculture —

Foods	98
Drugs	49
Misc.	1
Fertilizers	0
Stock Foods	61
Total	209

Samples from State Liquor Licensing Board..... 1

Grand Total 929

Distribution of Outfits —

Tuberculosis	329
Diphtheria	436
Typhoid	108
Miscellaneous	1
Ophthalmia	2,894
Water, chemical	2
Water, bacteriological	93
Typhoid Vaccine	12
Total outfits distributed.....	3,875

Food and Drug Samples Tested With Summary of Conclusions Reported

<i>Material</i>	<i>Total</i>	<i>Satisfactory</i>	<i>Mis-branded</i>	<i>Adulterated</i>	<i>Insufficient Information</i>
Milk	8	2	0	5	1
Evap. milk	3	3	0	0	0
Cream	3	0	0	0	3
Butter	1	0	0	1	0
Lard	8	5	0	3	0
Sausage	7	5	0	2	0
Hamburger	10	4	0	6	0
Vinegar	16	9	0	7	0
Cider	1	1	0	0	0
Candy	1	0	0	0	1
Catsup	4	4	0	0	0
Vanilla Extract	1	0	0	1	0
Lemon Extract	7	6	0	1	0
Misc. Extracts	9	2	7	0	0
Flour	3	3	0	0	0
Egg Substitute	4	4	0	0	0
Misc. Foods	12	10	2	0	0
Total Foods	98	59	9	26	5
Tr. Iodine	13	12	0	1	0
Spts. Camphor	6	3	0	1	2
Camphorated oil	1	1	0	0	0
Bay Rum	2	1	0	1	0
Witchhazel	3	3	0	0	0
Hair Tonic	1	0	1	0	0
Morphine	1	1	0	0	0
Turpentine	2	2	0	0	0
Proprietaries	3	0	2	0	1
Hydrogen Peroxide	1	1	0	0	0
Misc. Drugs	16	7	3	1	5
Total Drugs	49	31	6	4	8
Miscellaneous Samples	1	1	0	0	0
Grand Total	148	91	15	30	13

DIVISION OF PLUMBING INSPECTION

February, 1918

Thirty-three inspections were made during February, in factories, school and university buildings, state institutions, stores, public buildings, hotels, hospitals, military barracks and other structures.

One factory was ordered to install plumbing in accordance with the code. Certificates of approval were issued for two factories, one store, one hotel and one railroad freight house. Thirteen plans were examined — five for public schools, seven for state institutions and other public buildings and one for a church. A three-day meeting of the Ohio Master Plumbers at Dayton was attended. Two conferences were held.

HEALTH OFFICERS' ROUNDTABLE

Cambridge Enforces Vaccination

To check the spread of smallpox in Cambridge the city board of health passed resolutions requiring school children to be vaccinated and directing "all persons owning or operating any place of business or pleasure where persons are allowed to work or congregate" to enforce vaccination on pain of having their businesses closed.

"Quarantine will help to hold the disease in check for a while, but will not eradicate it from our city as general vaccination will," declared Health Officer O. F. Lowry in an official statement.

Charter Framers Discuss Health

Akron's charter commission, which is formulating a new charter for the city, is giving much attention to provisions for the health department. Members appear to agree that the health problem is one of the greatest menaces to the city's progress and development, and that wide powers ought to be given to the health department to enable it to handle the situation effectively.

Volunteer Health Workers

Cleveland is enrolling women as volunteer health workers. These volunteers do field service in company with the health department nurses, clinic work and office work. Some donate the services of their automobiles, permitting nurses to cover large territories. A series of six weekly lectures is being given

the volunteer workers. The work is being carried out in co-operation with the public health committee of the Women's Committee of the Council of National Defense.

Health Officer Replaces Board

Miamisburg has abolished its board of health and provided for a health officer to draw a salary of \$300 per annum. Dr. C. S. Judy has received the appointment.

Oppose City Hog-Keeping

The Wooster board of health has gone on record as opposed to any relaxation in the regulations against keeping hogs in the city. Dover council has refused to grant a request of the mayor that the bars be lifted.

Health Officers Re-chosen

Dr. H. E. Welch, for 25 years health officer in Youngstown, has been re-elected for 1918.

U. D. Ward has been chosen as his own successor in the post of health officer at New Philadelphia.

Makes Figures Tell Truth

Honesty in submitting municipal vital statistics was notable in the 1917 annual report of Dr. A. L. Smedley, health officer in Hamilton. In stating the city's death rate for the year, Dr. Smedley based his rate on the population shown by the liquor license census, 41,337, which made the rate

12.43. Had he used the Federal census estimate for 1917, which amounts to 43,575, the rate would have been only 11.79.

Prosecute Quarantine Violator

The Wellston board of health has instructed the city solicitor to prosecute that city's first smallpox victim during the recent outbreak. This man is said to have violated

quarantine and exposed numerous other persons.

Plan New Laboratory Work

The Cleveland health department is considering provision for laboratory diagnosis of pneumonia, to make possible the determination of which of the four types of the disease the patient has, so that the proper serum may be administered.

PUBLIC HEALTH NOTES FROM OVER THE STATE

Miss A. J. Cunningham, public health nurse at Bellefontaine, has been elected an honorary member of the Logan County Medical Society.

* * *

Four hundred pupils in a Cleveland parochial school were vaccinated last month when twenty cases of smallpox, none of which had had medical attention, were discovered in the school. Nearly 50,000 school children have been vaccinated by Cleveland's school physicians since last fall. One hundred thousand of the 104,000 school children in the city are said to be protected by vaccination against smallpox.

* * *

Akron has issued \$50,000 worth of bonds to cover the expenses of a survey of the city's sewer system. Lack of a correct plat of the city's sewers is said to have delayed public improvements and the survey will remedy this difficulty.

* * *

A training course for public health workers, to be established in the Municipal University of Akron, has been suggested by Dr. C. T.

Nesbit, Akron health commissioner. Members of the city health department, according to his plan, would serve as instructors, and the city itself would be the laboratory.

* * *

Construction of a sewage disposal plant has been proposed in Lorain.

* * *

Superintendent Courtenay Dinwiddie resigned from his position in the Cincinnati Anti-Tuberculosis League to devote his entire time to the work of the Social Unit organization in Cincinnati. N. A. Nelson, assistant superintendent, has been appointed to fill the vacancy.

* * *

At a meeting of the Tuscarawas County Public Health League, February 21, the following officers were elected: A. A. Gibson president, A. F. Schott secretary, and Apollo Opea treasurer.

* * *

The annual report of the Sidney Visiting Nurse Association shows receipts of \$1,517.60, disbursements of \$1,174.64; a total of 1,526 home visits by the public health nurse, Miss G. E. Williams.

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The Ohio Public Health Journal

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No. 4

EDITORIALS

Army Reports Progress in Venereal Disease Battle Cause for rejoicing is found in a recent statement from the office of the surgeon general of the army regarding the prevalence of venereal diseases among United States soldiers in recent months.

The strenuous campaign of the army medical authorities for the suppression of venereal infections, supported by widespread activities of civilian health agencies, has had a marked effect on the case rates since the mobilization, according to this statement.

One of the most striking features of the report is found in the statement that the lowest rate ever reached in the army was that for the two months from December 7, 1917, to January 25, 1918, covering the holiday period, when greater opportunities for exposure might have been expected to bring a rise in rate. The annual rates per 1,000 men for the three branches of the military forces during that period were as follows:

Regular Army	69.7
National Guard	44.6
National Army	74.3

That this low record was achieved during a period when more men than usual were away from the direct supervision of the military authorities and from the safeguards put about them in camp, speaks well for the civilian health authorities of the country.

The report indicates that public health workers, both military and civilian, have awakened more completely than ever before to the necessity of handling the venereal disease situation as an important health problem, and that by such awakening they are at last placing themselves in a position to get the upper hand over our greatest health menace.

* * *

Why Not Call a Spade a Spade, Mr. Editor? The changing attitude of the newspapers toward the frank discussion of the venereal disease problem is doing much to aid in the solution of the question. Where a few years ago practically all edi-

tors would have excluded all mention of the subject from their columns, many are now willing to deal with it in a manner free from prudery.

There is still one step, however, that many papers have not yet taken. Many still refuse to refer to venereal diseases by name. A certain degree of circumlocution may lose little in effectiveness, but when so heavy a veil is thrown about all allusions that the true meaning is obscured, there is need for a change.

To cite a specific example: recently the State Department of Health issued a statement regarding the causes of baby deaths in Ohio. One sentence in it read in part: "Tuberculosis, syphilis and convulsions kill from 125 to 175 babies each." One paper printed it this way: "Tuberculosis, a serious hereditary blood disease and convulsions kill . . ."

An article in another paper informs us that the number of cases of "social diseases" is decreasing, and then continues: "The most violent of these diseases dropped from 15 cases in January, 1917, to only one case in January, 1918. A lesser form of disease was reduced half, from 22 cases to 11."

This Department would be the last to complain a great deal about the course most papers are following in relation to the campaign against venereal diseases, for it realizes clearly the importance of the part they are playing. And it offers no serious objection to such terms as "sex diseases," "social diseases," etc., provided the meaning is perfectly clear to the hurried reader. But it does suggest that misleading phrases should be avoided and that perfect frankness is the best course.

The education of the public in this matter has progressed to such a point that the newspaper publisher need not fear that frankness will offend many of his readers.

* * *

Protection for Munition Workers Subject of Study The report of the Division of Industrial Hygiene on oil infections in machine shops, submitted in this issue, offers the first definite results from the Department's program to safeguard the health of munition workers, which was announced at the beginning of the present year. The investigations upon which the report is based were carried out in a large industrial plant, with the thorough co-operation of the owners.

Enough time was consumed to make the research an exhaustive one, and the conclusions reached deserve the careful consideration of other employers engaged in similar lines of work.

The services of the staff of the Division of Industrial Hygiene are at the disposal of any manufacturer who wishes to protect the health of his employees. Investigations will be made upon request and remedies

to fit the individual case will be prescribed after the situation has been studied.

At the present time, when the nation's production of war materials must be maintained at maximum efficiency, it is highly important that our industrial man-power be conserved. To aid in this important phase of conservation, the State Department of Health strongly urges munition makers to avail themselves of the services of its Division of Industrial Hygiene.

* * *

Health Officer Should Stay on His Own Side of the Fence Strange as it may seem, the leaders in several local movements in Ohio to let down the bars against hog-raising in town for the period of the war have been the health officials of the towns in question.

We can understand how a health officer or health board member might yield to pressure from outside and grant what appeared to be a popular demand that pigpens be permitted—we can understand it, even though we can not approve the policy.

It is beyond our understanding, however, that a health official can hold such a mistaken idea of his functions that he will feel it necessary to take the lead in a movement of this kind.

As we see it, the duty of a health official as a public servant is at all times to champion the cause of public health and sanitation. He should fight always for the strictest of sanitary regulations. Ideally, he should permit no relaxation of such regulations; practically, he should permit no relaxation to which he is not driven.

Hog-raising in town is admittedly inimical to public health. One recent writer has commented that a town must choose between raising hogs and raising babies. This being the case, it is the duty of the health officer to fight to the last ditch against the introduction of hogs. If the health officer deserts the cause of public health, who can be expected to defend it?

All of us, it is true, are anxious to do our part in food conservation. Where food conservation and health conservation clash, however, the duty of the health official is clear.

Let the food administrator urge "equal rights for hogs" if he must, but let the health officer speak up for his human constituents.

* * *

Babies Are Dying; What Are You Going to Do About It? Infant mortality statistics for January, given elsewhere in this issue, show this year opening with a baby death rate practically as high as usual. This is the situation which child welfare

workers have feared would come in 1918, and this is the situation to meet which the "Children's Year" plan was inaugurated.

Those who have been inclined to doubt the practical importance of the child conservation measures which have been undertaken should be convinced by these up-to-the-minute figures. No argument should be necessary to prove that the only answer to a rising death rate is to set effective preventive machinery in motion at once.

Local health officers, public health nurses, physicians and other persons acquainted with public health methods can do no service of more importance at present than to co-operate with and guide the volunteer workers who have enlisted for the baby-saving campaign.

Steps should be taken at once, in every county where they have not already been taken, to organize child hygiene work, with both men and women playing an active part. Where organization is complete, care should be exercised to co-ordinate all agencies engaged in the work.

The task ahead is to reduce the death rate which has been set down in cold figures for January. Every activity tending toward the accomplishment of that task should be willingly and enthusiastically supported.

* * *

**"They Have to Have It, So
They May as Well Get It Now"**

Here is an item, with only names and addresses omitted, from a recent Ohio city newspaper, which, for its educational value, might well be reprinted in every paper in the country:

Whooping cough, said Coroner —
—, was the cause of the death
yesterday of Howard —, aged
3 months, found dead in bed at the
home of his parents, Mr. and Mrs.
—, 198 —
Avenue. Burial will be made at
— Cemetery.

Yet parents refuse to consider whooping cough a serious disease! Yet physicians and health officers in many cases consider it lightly and fail to take adequate precautions to prevent epidemics!

Meanwhile baby lives continue to be snuffed out, just because nobody takes the trouble to save them.

* * *

**See That Soda Fountains
Are in Sanitary Condition**

Local health authorities will do well to give a little attention just at present to the degree of faithfulness with which proprietors of ice cream parlors and soda fountains in their communities

are carrying out the regulations of the State Department of Health with regard to sanitary conditions in such establishments.

Leaflets containing these regulations can be obtained from the State Department of Health. For convenience the regulations are reprinted here:

Rule 1. In order that the sale of ice cream, sodas and soda fountain sundries may be conducted under sanitary conditions the operators of ice cream parlors and soda fountains are hereby instructed that all such goods shall be dispensed only in clean or sterile containers. To this end it is ordered that all soda fountains and ice cream parlors be provided with facilities for the thorough cleansing of dippers, glasses, spoons, serving dishes and any other vessel or utensil coming in contact with ice cream, sodas, or soda fountain sundries.

Rule 2. Facilities for the cleansing or sterilization of dippers, glasses, spoons, serving dishes and any other vessel or utensil coming in contact with ice cream, sodas and soda fountain sundries shall include

- (a) An adequate supply of hot and cold water of a quality suitable for drinking purposes.
- (b) Suitable arrangements for supplying boiling water or live steam.
- (c) Suitable provision for taking care of clean or sterile glasses, dishes, etc., so as to keep same clean until wanted for use.
- (d) Spoons must be exposed to boiling water or live steam for a period of five minutes.

Rule 3. All dishes and utensils, after each individual service, shall be first washed by rinsing in cold water, then thorough washing in hot water with soap or suitable cleansing powder, or exposed to live steam or boiling water for a period of three to five minutes, then rinsing in clean cold water and draining.

In lieu of the above requirement or when it is found impossible or inexpedient to use live steam or boiling water, sterile dishes, cups and spoons manufactured from paper, wood or any other suitable material, and handled in a sanitary manner, and used for one service only, will be allowed.

Rule 4. Refrigerators at soda fountains shall be kept clean by washing with hot water and soap or washing powder.

Rule 5. Employees in ice cream parlors and at soda fountains shall be cleanly in person and dress, free from infectious and contagious disease and trained in the conduct of their work.

Rule 6. The use of straws is forbidden except when such straws are protected from dust, dirt and handling by employees or others.

Rule 7. As soon as empty all ice cream containers, milk and cream cans shall be thoroughly rinsed with cold water and covered so that no foreign matter may enter said containers or cans.

Rule 8. The foregoing rules and regulations shall take effect and be in force on and after January 1, 1916.

Adopted September 23, 1915.

Amended March 17, 1916.

Under Section 1238 of the General Code of Ohio, "local boards of health, health authorities and officials, officers of state institutions, police officers, sheriffs, constables and other officers and employes of the State

or any county, city or township" are directed to enforce all State health regulations.

* * *

Nurses' Organizations to Meet in Cleveland The attention of public health nurses and of other persons interested in public health nursing work is directed to the announcement of the meetings of several nursing organizations in Cleveland the second week in May.

The annual meetings of the American Nurses' Association, the American League of Nursing Education and the National Organization for Public Health Nursing will be held at the Hotel Hollenden May 7, 8 and 9. The State Graduate Nurses' Association will meet at the Hotel Winton May 6.

These meetings will afford an excellent opportunity for interested persons to obtain the latest and best information on subjects pertaining to the nursing profession. Attendance will be well repaid in knowledge gained.

* * *

Physicians' Committee Enters Cancer Fight As chairman of the Ohio Medical Association's committee on control of cancer, Dr. Andred Crotti of Columbus is leading a movement which has as its object to check and reduce the increasing cancer mortality. The *Ohio State Medical Journal* says:

"Dr. Crotti will endeavor, by a series of monthly treatises on the subject, to impress upon the profession a realization of our responsibilities in more thorough and prompt cancer diagnosis and the benefits to be derived therefrom. To obtain results in a campaign to control the cancer problem, two things must be done—the medical profession of the state must be brought to improved methods of diagnosis through which incipient cancers may be detected, and the general public must be educated to the need of directing early attention to conditions that may result in cancer. Dr. Crotti has mapped out a comprehensive campaign, to the end that the profession may not merit in the future the severe criticism which it has received in the past because of increasing cancer mortality, and the movement deserves the earnest co-operation of every Ohio physician."

THE OHIO PUBLIC HEALTH JOURNAL would add to this last sentence the words: "and every Ohio public health worker." Cancer is an ever-increasing menace to the public health. The sooner effective measures to prevent it are put into operation, the greater will be the good that these measures can accomplish.

The Ohio Medical Association and its committee are to be congratulated for the public spirit they are displaying in this new enterprise.

* * *

Depreciation of Water Purification Plant is Dangerous

The Bellaire water purification plant has been in use in that city since 1915 and has produced very satisfactory results insofar as the quality of the filtered water is concerned. The equipment of the plant and of the water works pumping station operated in connection with it has never been entirely satisfactory and there has always existed an uncertainty in regard to the ability of the system to continue in service.

On February 6, 1918, through failure of low service pumping equipment, it became necessary to stop the operation of the filter plant and in order to maintain a water supply for the city unfiltered Ohio River water was pumped to the distributing system. These conditions continued until February 23, 1918, when repairs were completed and the operation of the filter plant was resumed. During these 18 days the citizens of the city, who had become accustomed to the use of filtered water, were forced to depend upon a turbid and contaminated supply.

This instance serves well to illustrate the value of duplicate equipment and the necessity of maintaining all equipment connected with a water works system in a high state of efficiency. Serious depreciation of water works equipment cannot occur without a serious detriment to the community.

Local Health Organization in Ohio

From a southern Ohio village comes this news item:

"At a recent meeting council hired Marshal Tom D. Jones as health officer and gave him a salary of \$5 a month. Health officers have in the past received no salary other than certain fees for work actually done.

"The health officer will earn the regular stipend by doing work that has been outlined for him. He has been instructed to lay the town out in districts and to visit each district at least once each month and see that the health laws of the state and the village are obeyed. He has authority to cause citizens to remove trash, rubbish and other unhealthy things from streets, alleys and their own premises."

It would hardly be cause for surprise if under his authority to remove "other unhealthy things from streets, alleys and their own premises" the new health officer-marshal should find it necessary to order the population out of town.

Cause and Prevention of Furunculosis and Wound Infections Among Machinists

Abstract of a Report of an Investigation by the Division of Industrial Hygiene, State Department of Health, R. P. Albaugh, Director

Importance of Pus Infections in Ohio. The presence of a high rate of furunculosis and wound infections among certain classes of workers in Ohio has repeatedly come to the attention of the Division of Industrial Hygiene and has assumed such proportions in certain establishments as to present an important economic problem. It has been observed that these afflictions are unusually prevalent in operatives of lathes and cutting and milling machines, who come in contact with cutting compounds and cutting oils, where these lubricants are caused, by gravity or force, to flow in a steady stream on a job at the point of application of the tool. It has been observed, also, that these infections are more prevalent during the summer months, the exact reasons being unknown.

Theories as to Cause. Various explanations have been advanced for the unusual incidence of these afflictions. It is a well known fact that pus-forming bacteria are usually present in large numbers even in normal conditions of health on the surface and beneath the surface of the skin, and, because of this fact, many observers are of the opinion that furunculosis, as reported among the workers described, is due not to the pres-

ence of pus-forming bacteria in the oil but to decreased resistance offered to the growth of bacteria already present in the skin. It is maintained that this lowered resistance is more pronounced in the case of wax-distillates than with the lighter oils, due to the presence of highly cracked bodies such as the aromatic compounds, which, by dissolving out fat from the skin, caused chapping and cracking, often followed by dermatitis. This may be the case with workers in wax plants where paraffin is separated from lubricating oils, but if it is true that oils and cutting compounds as used in automatic machines are contaminated with pus-forming organisms, and that, in some cases, these oils and compounds are of such composition as to sustain and promote bacterial life, then it must be concluded that such oils and compounds in themselves act as direct vehicles of infection. This surmise is further supported when the different types of skin afflictions are scrutinized as to their relations with the different substances. Thus in the distillation or handling of petroleum and petroleum products, the different distillates cause varying grades of dermatitis, the character depending, in a general way, on the types

of distillates given off at different temperatures. Benzine, or petrol naphtha, with a boiling point of 150° C. (and under) causes a superficial inflammation of the skin, with dry, scaly conditions, resembling somewhat a dry eczema. Lighting oil with a boiling point of 150° C. to 300° C. causes, in the main, papular and pustular eczema and the development of typical acne ("oil" pimples). Residium, with a boiling point above 300° C. causes an erythema and the formation of ulcers and warts with a tendency to cancerous changes.

Types of Afflictions. The afflictions observed among the machinists under discussion here, present a far different picture. Multiple abscesses, sometimes of a very severe type, are encountered and wound infections are unusually frequent. As expressed by Shie¹, "a pin-prick if left unattended, developed into a severe lymphangitis; a slight scratch in twelve hours into a linear mass of pus; a slight abrasion into a suppurating ulcer, and a laceration into a mass of necrotic tissue and pus." It is, therefore, evident that the skin abrasions found among operatives of cutting and screw machines are followed by pus infections all too frequently. Hence it would seem that attention should be turned especially to these substances as the potent agents in the dissemination of these infections throughout a department or an entire plant.

Conditions at the Plant. The case records as kept at the company's dispensary were not indexed in such a way as to show the number of cases treated of any

particular kind nor their distribution in the plant. Nurses at the dispensary, however, went back over the records and listed for us all cases of furunculosis and wound infection for a three months' period. Records of forty-one cases of furunculosis and twenty-six cases of wound infection occurring in twenty-six departments employing 1,365 men resulted. However, inquiry in the plant soon showed that many more cases actually occurred than appeared at the company's dispensary (self-treated, treated by outside physicians, etc.). Of the cases of furunculosis on file, 37 were detailed enough to be of value in the inquiry. A rather intensive study was made in connection with each case, including the dispensary and employment records and a personal inquiry of the departmental foremen and each of the victims.

Although it is to be expected that a certain rate of furunculosis will be encountered normally in any group of persons, yet it is evident that the occurrences in certain establishments are much too frequent for such explanation. It is significant, also, that but few of the cases observed had ever experienced this trouble before becoming employed in a capacity that brought them in contact with cutting compounds and cutting oils.

It was observed that the furunculosis rate was much higher in some departments than in others and two departments having rates of 10.8 per cent and 16 per cent were the only departments using, to any extent, automatic machines with continuous-flow lubricating systems. Not only were the rates higher in these departments, but

¹ Shie, M. D.: Wound Infections Among Lathe Workers. J. A. M. A., Dec. 8, 1917, pp. 1927-1930.

the types of furunculosis for the number of cases encountered were found to be much more severe.

There were 84.5 days lost because of furunculosis during the three months' period, representing a wage loss to the men estimated at \$303.40. Of the 84.5 days lost, 80.5 days were lost by employees in the two departments in which cutting compounds and oils were used in large quantities. It was observed, also, that the total duration of all cases of furunculosis was 557 days, 84.5 days being lost time, the remainder representing 472.5 days of more or less impaired efficiency, accompanied by the constant menace of spread of the infection in the individual himself as well as to his fellow workers. Practically all of the other departments showing furunculosis used oils or compounds to some extent, and many of the departments handled parts that had been machined in other departments using oils and compounds. It is evident that infection might be transmitted from one department to another in this manner and investigation tended to show that such is sometimes the case.

The *accident rate* varied from 53.6 per cent to 265.2 per cent for the three months' period in the different departments or an annual rate of from 214.4 per cent to 1060.8 per cent—an average of from two to ten reported accidents per man per year. The highest *wound infection rate* for any department was 6.7 per cent occurring in a department using cutting compounds and oils in large amounts. This department also had a high furunculosis rate. The infection rate for all accidents in all departments was only 1.6 per cent and demonstrates the value of

prompt medical care of all accidents, however unimportant they may seem. In one department with 101 accidents among 50 men during the three months' period there were no reported infections, despite the fact that this department used large amounts of cutting compounds and oils, and had the highest furunculosis rate of any department. It can, therefore, be safely concluded that where wounds occur, even under conditions most favorable for infection, infections can be kept at a minimum by prompt preventive treatment.

Distinctions in Mixtures. Cutting oils, consisting of lard oil or mineral oil, or both, are to be distinguished from cutting or drilling compounds which are usually mixtures of fat-oils, fatty acids, soaps and mineral oils which are mixed in varying proportions with water to form emulsions. Sometimes the addition of a small amount of sal-soda is necessary to produce a good emulsion.

Relations to Germ Growth. It is maintained by some observers that oils used in automatic machines tend to be sterile,—that they possess some bactericidal action. On this point the following experiments were made:

Experiment I. To Determine Whether Fresh Samples Are Infected. Eight samples of oils and cutting compounds were procured from machines and cultures made immediately as follows: Slants of glycerin-agar and blood-serum were treated with a loop of each sample, as were plates of glycerin-agar. At the end of twenty-four hours all of the cultures had visible bacterial growths. These were found to be the usual pus-forming organisms. One sample showed as many as 110,000 micro-organisms per gram of oil (estimated from colonies in petri plates after incubation for thirty-six hours), the organisms being practically pure

cultures of *staphylococcus aureus*, an organism causing boils, abscesses and other pus conditions.

Experiment II. The Bactericidal Action of Oils and Cutting Compounds. One cc. of a twenty-four hour broth culture of *staphylococcus aureus* was added to ten cc. of each of twenty-two samples of oils and cutting compounds which had been previously sterilized for fifteen minutes at fifteen pounds' pressure in the autoclave. The results of this series of tests indicated that neither mineral oils nor cutting compounds are germicidal. At the same time they probably have little in the way of nutrient properties for bacterial growth. However, as growth did not disappear in many of the test mixtures in a period of twelve hours, the indication is strong that these mixtures may be capable of action as "carriers" of infection. In this connection there did not seem to be any difference between cutting oils and cutting compounds.

Sources of Pollution. There appear to be many sources of pollution for the oils and compounds. It was found that all workers interrogated denied spitting into the reservoirs, but several men denying this practice were observed to do so in spite of instructions by foremen and officials to the contrary. As the operatives' hands and arms are in almost constant contact with these substances, the filthiness of this practice can be readily appreciated. Cuspidors should be supplied to all employees and insistence on their use is essential. In general, it is better to replace "Don't Spit" signs with cuspidors and signs calling attention to them, as "Use the Cuspidor."

Mode of Spread. Due to these exposures, pollution is almost certain to follow, especially in those cases where employees have acne or where they have pus infection of the skin, or mouth and respiratory tract. This is more serious where machines are equipped with individual oiling systems and where

cuttings and shavings are collected from the different machines and the oil drained off and filtered. The oil is usually heated slightly to facilitate the filtering process. It will be seen that if the oil from one machine is polluted with organisms and is mixed with oil having slight or no antiseptic properties and coming from many other machines, and later redistributed, infection is certain to be carried to any number of men. This is also true of machined parts which are covered with the oil and subsequently handled by men in other departments. Cutting compounds, on the other hand, are not usually recovered from cuttings and there is, therefore, less possibility of infection spreading from machine to machine, except by the small amount which adheres to machined parts. Here the effects of rapid drying and light probably cause the death of the great majority of pus-forming organisms within a few hours at most. But if the cutting compound becomes polluted in a given machine (as it usually is), the man working on the machine may be re-infected indefinitely.

Wound Infections. Repeated minor injuries by steel splinters, etc., offer many opportunities for bacteria to enter the skin. These steel splinters are present in oils and compounds in great numbers as has been demonstrated by microscopical examinations as well as by magnet withdrawal (Shie).

Conclusions. It is, therefore, concluded that oils and compounds are important factors in transmitting organisms which cause furunculosis and which infect wounds. It is concluded, also, that the mechanical action of these substances is an important factor in

causing skin affections. It is evident that if these oils and compounds can be kept free from contamination the most important feature will be taken care of.

Control. It would seem that the workmen could be impressed with the filthiness of the habit of expectorating in oil in which their hands and arms are almost continually bathed. It would seem, also, that their attention might be forcibly called to the danger of working on machines while they have infections of any kind with which oils come in contact. Employes having infections of this kind should report to the dispensary at frequent intervals so as to have the part dressed in such a manner as to prevent oils coming in contact with discharging sores.

Washing facilities should be provided of a type to prevent men washing in the same water, running water being preferable. Towels used in common should be prohibited and every man should have his own cotton waste and wiping rags. There should be strict plant supervision and regulation of these features, if epidemics of boils and wound infections are to be prevented.

Men subject to chapped skin and men who are susceptible to skin irritation, acne, etc., should be transferred, if possible, to machines not requiring the use of oils and compounds. Even with these precautions it is probable that oils and compounds will become polluted and there remains the *possibility of sterilization* by heat or chemical disinfectants. In plants where single machines have their own pump and reservoir, thus having an individual oil supply, it would be impracticable to attempt to heat the oil in each machine at

intervals of sufficient frequency to keep the oil sterile. However, the oil that is reclaimed from the cuttings and steel shavings by draining and filtering could be heated to a temperature sufficient to kill all organisms. Pasteurization temperatures (140° to 165° F.) can be readily carried out, — 140° F. for twenty to thirty minutes suffices; higher temperatures may be used for proportionately shorter periods.

In plants having central oiling systems, with large tanks from which oil flows by gravity to individual machines and is then returned to the tank, heat sterilization can be effectively carried out. Steam coils can be installed in the oil tanks and the oil heated to 140° F. for twenty to thirty minutes and from here allowed to flow to the machines. When the oil is re-collected from the machines it should again be sterilized and thus always reach the individual machine in a sterile condition.

Chemical disinfectants have been suggested and used with varying success by a number of firms. Coal-tar disinfectants are apparently the only ones available as others have objectionable features, some of them corroding metals, others interfering with the lubricating properties of oils and compounds and still others being too expensive to be practical.

Cresols have been extensively used in this connection, partly because of their high phenol co-efficiency, and partly because they are the most inexpensive of the coal-tar products to use. Their use has been accompanied with indifferent success. Many objections have been raised as regards their use, the chief objections being their odor and their irritating

properties to the skin. It has also been observed (as will be shown later) that they are apparently not effective as germicides when used in oils. Cresol dermatitis is frequently observed among workers exposed to cresol and it would seem that if used in oil in sufficient quantities to be effective as a germicide, it might defeat its purpose by creating an aggravating dermatitis that might readily become infected.

A sample of cresol disinfectant was procured which was rated by the United States Hygienic Laboratory as having a phenol coefficient of 6.06 without organic matter and 3.21 in the presence of organic matter. In tests with organic matter by the Hygienic Laboratory, typhoid bacilli were killed in $2\frac{1}{2}$ minutes by a 1 to 180 dilution and in 15 minutes by a 1 to 375 dilution. As oils and compounds contain considerable organic matter, it was to be expected that the results with cultures of pus-forming organisms would be about the same, when the disinfectant was added to oils and compounds.

Experiment III. To Determine the Effectiveness of Cresol Disinfectants in Cutting Compounds. A loop of *staphylococcus aureus* was added to a 1-to-50 solution of the cresol disinfectant under discussion in cutting compounds, and the whole well agitated. After thirty minutes cultures were made after the usual methods. Live bacteria were found. Bacteria were, of course, also found in higher dilutions. Hence the disinfectant was not effective in a 2 per cent solution in oil in thirty minutes. It was effective in a control experiment in a $\frac{1}{4}$ per cent solution in water in fifteen minutes. It is therefore apparent that the oil emulsion in the cutting compound exerts a protective influence over suspended bacteria. This was also brought out by applying the same tests to a drilling compound (which is similar to cutting

compound but contains more water). The disinfectant in this case was effective in thirty minutes in dilutions up to 1-to-50.

Tests were also made to determine the stability and effectiveness of the cresol disinfectant by making up two series of dilutions of the disinfectant in a drilling compound varying in strength from 1-to-10 to 1-to-300. The drilling compound was previously sterilized in the autoclave.

Experiment IV. The Stability of Cresol Disinfectants in Cutting Compounds. To each tube in Series I a loop of twenty-four hour broth culture of *staphylococcus aureus* was added, and in thirty minutes cultures were made from each tube and the cultures incubated for twenty-four hours. The other series of tubes (Series II) was placed in the incubator for twenty-four hours at a temperature of 100° F. with the cotton plugs loosely in place, in order that evaporation of the disinfectant could readily take place (as might occur in practice). At the end of twenty-four hours each tube was inoculated with a loop of a twenty-four hour broth culture of *staphylococcus aureus* and at the end of thirty minutes cultures were made and then incubated for twenty-four hours. A series of dilutions of the disinfectant in normal salt solution was used as a control (Series III). The disinfectant was effective when combined with drilling compounds (Series I) in dilutions of 1-to-10 and 1-to-50 after a short interval (thirty minutes) but was not effective in higher dilution. The same results obtained in Series II, the disinfecting properties not being affected by attempting to evaporate the disinfectant. There was no growth in the salt solution in any of the dilutions, showing the effectiveness of the cresol disinfectant in simple watery solution (Series III). The sum of the experiments shows that oils apparently inhibit the action of the disinfectant in dilutions above 1-to-50 and therefore the disinfectant is not effective in weaker dilutions.

The particular disinfectant used apparently formed a very good emulsion with the cutting compound, but it would have to be used in at least a two per cent solution. Hence the cost, disagreeable odor and irritating properties

of the mixture would prohibit its use. This disinfectant resembles very closely the Liquor Cresolis Compositus U. S. P. and differs but little from other commercial cresol disinfectants, most of which have a relatively high phenol coefficient, like the one used. We can therefore conclude that *cresol disinfectants are of but doubtful value for the purpose at hand.*

Requirements Necessary in a Chemical Disinfectant. A disinfectant to be satisfactory for this purpose should not be irritating to the skin, should not affect the lubricating and refrigerating properties of oils and compounds, should not stain or bleach or corrode metals or rot fabrics, should not have an unpleasant odor, should be cheap, stable, miscible and effective in water and oil and should be effective in both slightly alkaline and acid media. In addition, it should not be greatly affected by the presence of organic matter. Apparently, there are some commercial disinfectants having most of these properties, the principal drawback being that they are not effective in oil. Continued efforts will have to be made to determine a satisfactory disinfectant for the purpose at hand.

Intermittent Steam Sterilization Suggested. For the cutting compounds which are used over and over again in the same machines and which are not collected up nor filtered free from shavings and cuttings and hence in no part of their use pass through a common reservoir, it is suggested that passing hot steam into them two or three times a day for a few minutes at a time would aid greatly in reducing the mass of bacteria present. It is suggested that a small steam pipe might be run into

the reservoir of each machine or a steam hose used. Then before starting the machine in the morning and at the noon recess and in the evening the steam could be allowed to bubble through the cutting compound for perhaps fifteen or twenty minutes, in which time it is more than probable that the temperature would be so raised as to destroy most of the bacteria present. This is upon the principle that where bacteria for various reasons cannot be totally destroyed it is nevertheless very effective to destroy the vast majority of them to prevent the spread of disease.

Summary

1. The incidence of furunculosis and wound infection in certain establishments is apparently abnormally high and represents an important economic loss to the company as well as to the men affected.

2. Cutting compounds and cutting oils are vehicles or "carriers" for pus-forming bacteria and are responsible for engendering and spreading much furunculosis and wound infection.

3. The oils and compounds used appear inert to bacterial life, being neither germicidal, antiseptic nor directly supportive.

4. Employees are probably mostly responsible for the infection of the oils, but accidental infections would probably occur under the most favorable circumstances, suggesting the necessity of some means of sterilization of oils and compounds.

5. Education of employees in regard to expectorating into lubricants and reservoirs, interchange of towels and wiping rags, and the frequent cleansing of clothing, as

well as the prompt dispensary care of all wounds and skin eruptions, are essential.

6. In purchasing oils and compounds from the manufacturer, sterile products should be specified.

7. Heat sterilization of reclaimed oil before it is redistributed is important. This can be effectively carried out by heating the oil to 140° F. at least twenty to thirty minutes. There does not appear to be any satisfactory method of sterilizing oils and compounds by heat in individual machines. It might be possible, however, to use some form of in-

termittent steam sterilization at such points, for both oils and cutting compounds.

8. Experiments so far made both by the investigators and by others have proved disinfectants to be of doubtful value, their efficiency being apparently impaired when mixed with oil. A commercial cresol disinfectant with a phenol coefficient of 3.21 in the presence of organic matter was not effective unless used in two per cent solution. The cost, odor and irritating properties of a two per cent solution would render its use impracticable.

OCCUPATIONAL DISEASE IS DISTINGUISHED FROM INDUSTRIAL ACCIDENT BY OHIO SUPREME COURT

The Ohio Supreme Court in a recent decision established a distinction between an occupational disease and an industrial accident or personal injury, which, aside from its importance as a guide to the carrying out of the workmen's compensation law, has interest for persons interested in the industrial side of public health work.

The court ruled as follows:

"1. A disease contracted in the natural and ordinary course of employment, by a person engaged in a particular calling or occupation, which disease from common experience is known to be a usual and customary incident to such calling or occupation, is an 'occupational disease,' and not within the contemplation of the workmen's compensation law.

"2. The accidental and unforeseen inhaling by an employe, in the course of his employment, of a

specific, volatile poison or gas, resulting in injury or death, is not an occupational disease."

The Supreme Court in its decision affirmed a judgment of the Jefferson County Court of Appeals, which had reversed a ruling of the Industrial Commission. The Industrial Commission, in the decision thus set aside, had refused to pay a claim under the workmen's compensation law for the death of Edwin S. Roth, who had been killed by lead fumes from paint which he was thawing at the direction of his employer. The commission held that his death was due to an occupational disease, for which no compensation is provided by law. Roth's administratrix contended that the death was due to "personal injuries sustained in the course of employment," and therefore came within the provisions of the law. The latter view was upheld.

Sanitation of Camp Sherman Extra-Cantonment Zone, Chillicothe, Ohio

By D. E. Robinson, Surgeon, United States Public Health Service

WITH the opening of the numerous army cantonments throughout the United States, there arose sanitary and health problems of great magnitude, for never before in our history have so many large bodies of men been suddenly brought together from all walks of life and, as it were, thrust upon civil communities. The nearby towns rapidly increased in population, often to more than twice their normal size, and new villages sprang up almost over night. The great influx of strangers taxed the housing accommodations to the utmost and through the congestion resulting, the danger of introduction of contagious diseases was enormously increased. Not only were the soldiers likely to bring infection to the camp, but the large force of laborers required for construction work and other strangers incident to the camp were an even greater menace to the health of the community. On the other hand the potential danger to the men of the new army from impure water and food supplies or other bad sanitary conditions in the zone around the camp was very great.

These dangers were early recognized by the sanitary authorities throughout the country and prompt measures were instituted to protect the soldiers from acquiring infection from sources without the camp and also to pro-

tect the citizens of the extra-cantonment zone from the unusual dangers to which they were exposed by reason of the establishment of a cantonment in their midst.

City, state and national health authorities, working in harmony with each other and with the military authorities, have striven to maintain sanitary and health conditions in the region surrounding the cantonment up the highest possible standard.

The United States Public Health Service at the request of the different state and city authorities has detailed medical officers to most of these zones, in either an advisory or an administrative capacity, with a view both to aiding the local health authorities in meeting the emergency conditions and also to developing a health organization of the highest order to remain after the emergency shall have ceased to exist.

The direction of sanitation around Ohio's great cantonment (Camp Sherman) was turned over to the United States Public Health Service by the state, October 27, 1917. At this time the state authorities had developed a health organization and, with the aid of the American National Red Cross, which had contributed a sanitary unit, had sanitary measures well under way.

The present health organization consists of: two commissioned

medical officers, one acting assistant surgeon and one scientific assistant detailed from the United States Public Health Service; the Chillicothe board of health with a part-time health officer and a sanitary officer; an American Red Cross sanitary unit composed of one bacteriologist, two sanitary inspectors, four public health nurses, and one clerk. A bacteriological laboratory equipped by the state and maintained by the Red Cross is an invaluable aid in the work.

The city was found to have an excellent sanitary code but some revising was needed. Amendments have been made requiring: (a) that all privy vaults shall be screened against flies, (b) that all wells shall be adequately protected against pollution and that both public and private wells when found polluted may be condemned by the sanitary authorities, (c) that manure shall be kept in tightly constructed bins and removal effected twice weekly from March 1 to November 1, (d) that all food handlers or workers in dairies shall be subject to medical examination and protective inoculation against typhoid fever at the discretion of the board of health.

Water Supply

The city water supply is pure and abundant, coming from deep wells which are adequately protected against contamination, and the reservoir is admirably located, well constructed to prevent pollution from surface drainage and carefully policed. Repeated bacteriological examinations have shown total absence of *B. coli*. Notwithstanding this adequate supply of pure water, a large number of the citizens have preferred

to use water from private and public wells and cisterns. Many of these, because of insufficient safeguards against contamination from privy vaults and from surface pollution, have become badly infected. A large number have been examined bacteriologically and this work will be continued as rapidly as possible. Of the public and semi-public wells and cisterns thus far tested 54.5 percent have been found infected with *B. coli* and condemned. Of the purely private wells 18.1 percent show contamination. Two cases of typhoid fever in one family undoubtedly resulted from the use of water from a well in close proximity to a defective privy vault. This well showed a high degree of pollution.

Milk

Nearly all the milk used in Chillicothe is furnished by six large distributing firms which receive their milk supply from about 100 producers. Thirty-five per cent of the milk is furnished by one company which pasteurizes the milk before distribution. Frequent bacteriological examination is made of all milk and the dairy farms are inspected and scored. In only one instance has the bacterial count and sediment test shown impure milk, and by process of elimination this trouble was traced to one particular dairy farm and found to be due to improper methods used in milking. By insistence upon the proper precautions being employed this milk quickly conformed to the required standard. With the advent of warm weather still greater care will be necessary in order to make sure that the proper standard of purity is being maintained.

Hotels and Restaurants

One of the most difficult and at the same time most important of the problems of extra-cantonment sanitation is the regulation of eating places. There are about sixty of these in the zone around Camp Sherman, a large proportion of which have sprung up since the opening of the camp. Unless these places are kept under strict supervision not only the sanitary but also the moral conditions would fall to a low plane. Every effort is being made to keep these places up to the standard required by the sanitary code. All have been furnished with copies of sanitary regulations and frequent inspections and ratings are made.

In conjunction with the military authorities the following plan has been put in force: To all eating places which fulfill the sanitary requirements a certificate of approval is issued, which must be posted in a conspicuous place, and instructions have been given all soldiers to eat in no place which does not possess this approval certificate. To obtain one of these certificates a restaurant must not only reach the usual standards of cleanliness but all employes handling food destined for public consumption must have been examined by officers of the United States Public Health Service and found free from communicable diseases. For the examination of female employes, a female physician has been appointed. Not many cases of communicable diseases have been found but this in all probability is due to the fact that many so afflicted have left their places of employment when notified that a physical examination would be required, and now that all those seeking employment in restaurants are required to

produce a certificate of health, those who know they can not pass do not apply.

The barber shops are also required to conform strictly to the regulations prescribed in the city sanitary code as are the ice cream and soda water establishments. Frequent inspections, scoring and issuance of approved certificates being the means employed for this purpose. Military guards for the prevention of patronage by soldiers have at times been necessary to produce the desired results in restaurants and barber shops.

Disposal of Garbage and Night Soil

The collection and disposal of garbage has heretofore been one of the functions of the Health Department. Four men with horse-drawn carts collect the garbage from residences twice weekly, and three times a week from restaurants and hotels. The garbage is dumped a short distance beyond the city limits. The defects of this method are readily apparent and steps have been taken either to have the removal of garbage turned over to the Service Director or an increased allotment of funds to the Board of Health in order that motor garbage wagons can be purchased and the garbage taken a sufficient distance from the city and burned.

A sanitary survey of the city in regard to privy vaults has been completed and shows the following:

Total number of houses in the city	3,810
Number of houses connected with sewer	1,803
Number of houses with privies only	2,007
Number of houses with both sewer connection and privies	621

About one-third of the houses unconnected with sewers could be connected if the owner chose to do so but the remainder are not accessible to a sanitary sewer. Orders have been issued to the property owners to clean, fill and abandon privy vaults and make sewer connections where this is possible. Those having sewer connections already and still retaining the old privy vaults are ordered to clean, fill and abandon these vaults. Those not accessible to sewers who have insanitary vaults are ordered to clean existing vaults and replace with cement water-tight vaults. These orders are being complied with as rapidly as the weather conditions permit.

Contagious Diseases

The lack of hospital facilities renders the control of contagious diseases a difficult matter, as when one of these diseases appears in a family, strict isolation in the home is often not maintained, and other members of the household are very liable to be attacked. All cases are visited by a medical officer for the purpose of confirming diagnosis and collection of epidemiological data. The houses are placarded and contacts isolated for the period of incubation. Frequent visits are made by the nurses who give instruction in prophylaxis and report other suspicious illness among other members of the family or contacts and in emergencies give bedside care.

An unusual number of cases of measles and German measles have occurred, but scarlet fever and diphtheria have been kept well within bounds, and only two cases of cerebro-spinal meningitis have been reported. The American Red Cross laboratory has been of great

aid in controlling diphtheria as swabs are taken from all suspicious looking throats among school children and contacts, and a few carriers have thereby been found, quarantined and treated until they ceased to be carriers. The inspection of school children is performed by nurses of the Social Welfare League employed by the board of education for this purpose aided in cases of threatened epidemic by the Red Cross nurses.

Smallpox appeared the latter part of October but was held in check by isolation of patients and isolation and vaccination of contacts. An order was also issued requiring vaccination of all school children who had not been recently successfully vaccinated. Nearly 400 children were vaccinated under this order. A few isolated cases have occurred in the city and country districts since, but at no time has an epidemic threatened. The total number of cases in Ross County including Chillicothe since October 27 is eleven. A circular letter has been addressed to all physicians urging upon them the importance of reporting every case of chickenpox in view of the difficulty often experienced in differentiating this disease from mild smallpox.

Eight cases of typhoid fever have been reported, three of which were in one family and two in another. Prophylactic inoculation against this disease has been urged and offered free to all but this offer has not been taken advantage of. However it may later be required of all handlers of food and workers in dairies.

Venereal Diseases

The control of venereal diseases is of prime importance in extra-cantonment work both as regards

the effectiveness of military organizations and the serious after-effects these diseases entail.

With a view to lessening these evils a venereal clinic has been opened, where carriers of venereal diseases among the civil population will be given free treatment and hospitalized if necessary until they cease to be a menace to society. Physicians will be supplied with salvarsan and other venereal remedies without cost for use in their private practice under prescribed regulations and serological and bacteriological tests will be made upon request.

Flies and Mosquitoes

Camp Sherman is fortunate in being located in a malaria-free region, making the fight against mosquitoes of minor importance. As yet no anopheles have been found but careful search will be made for the larvae of this genus with the advent of spring. A constant and strenuous warfare against flies will be necessary, careful attention being given to the eradication of breeding places such as manure piles, garbage, etc. Manure will be required to be kept in tightly constructed bins raised one foot from the ground and removal effected twice a week.

Rural

The character of the population and the sanitary conditions in the rural districts are much above the average for country districts, but efforts will be directed toward improving conditions when necessary in regard to surface privies and water supplies unprotected from pollution. All cases of contagious disease are visited and quarantined for the required time.

There are twenty-five rural

schools in the five-mile zone around the camp and these are visited and inspected by a medical officer and a nurse. The hygienic and sanitary conditions of the schools and physical condition of the pupils are noted and steps taken to improve them when defective.

The most serious condition thus far noted has been an almost total lack of protection against smallpox, not more than one-tenth of the pupils ever having been vaccinated against this disease. Measures will be taken to produce as far as possible a smallpox-immune population in the extra-cantonment zone.

Notification of Diseases

It goes without saying that the first essential in disease control is an accurate knowledge of the existence of disease. To secure this, all the physicians of the county have been furnished notification cards and franked envelopes and requested to report every case of communicable disease occurring in their practice, and they have co-operated very heartily in this work. Daily interchange of information as to the occurrence of communicable disease within and without the camp is maintained between the army medical authorities and the Public Health Service.

The board of health of Chillicothe has measured up to the requirements of the altered conditions in a most commendable manner and has at all times given its undivided support to any new health measure which has been recommended for adoption.

Editor's Note: Dr. Robinson's article was prepared about February 1, and all statistical information contained must be considered as of that date.

Maternity Hospitals as a Rural Need

By Frances M. Hollingshead, M. D., Director, Division of Child Hygiene, State Department of Health

IT HAS BEEN pointed out recently by Dr. Grace L. Meigs, of the Federal Children's Bureau, that many thousand women lose their lives each year in this country because of accidents incident to child-bearing. Many, far too many, of these deaths are due to sepsis.

Years ago when Oliver Wendell Holmes led his famous attack on sepsis there began an intensive campaign in hospitals to eliminate puerperal infection from their wards, which has resulted in the almost complete removal of sepsis from the lists of cases in our best hospitals. All hospitals have cases brought in to them but the first-class hospital considers it a disgrace to have a case develop in its wards.

Yet the number of cases is high. This is chiefly because women are still being improperly handled during the obstetrical period in numbers of districts. The best physician cannot avoid sepsis if he has not at his command the proper equipment to safeguard his patient. It is a well-established fact that the home, of whatever type it be, does not offer the same opportunity as a well-equipped hospital.

Our Hospital Equipment

The question then arises as to how we are equipped with hospitals. There are listed in this state more than 150 hospitals which care for women and children and which have some obstetrical cases

during the year. There are, of course, small ones of which we have no knowledge. Of the 150 listed, eight are in places of less than 5,000 population. One may see at a glance how many women in the rural population would, in this calculation, be left entirely without readily available hospital facilities.

One naturally thinks at once: Why do not more rural women go to the large city where there are splendid obstetrical facilities? There are several ways of explaining this; in the first place, many women who can afford such service do not want to go so far from home that their husbands and children cannot visit them often; second, there are many homes where, even during the time the mother is in bed, she must oversee the household affairs because of the difficulty in securing domestic service; third, there are many women who cannot afford to go far from home or pay expensive rates; fourth, there are still a certain number of physicians and patients who are not yet ready to endorse hospital treatment as more efficient than that in any home.

Questionnaire Sent Out

In order to find out as a first step in this study how many women and little children were cared for by institutions in a year in Ohio, a questionnaire was sent by the director of the division of child hygiene of the State Department of

Health to 263 institutions. These comprise general hospitals, maternity hospitals and homes, county infirmaries (in all of which some women are delivered) and infant boarding homes and children's homes handling children under three years of age. Answers were received from all but fifty institutions. There were reported to have been handled in the three classes of institutions actually delivering women—general hospitals, maternity hospitals and infirmaries—19,201 women and children. This seems to be a large group but we must remember that Ohio registered 120,000 births in 1917.

The accompanying table shows the information gathered from the compilation of the individual questionnaires.

How Provide for Rural Woman?

The practical fact remains that the rural woman should have an available place to go if she has the money and the inclination. There are two ways of solving this difficulty. An ordinary dwelling house is capable of being made into a fairly efficient maternity hospital. Local physicians may be interested in such a proposition and may be induced to invest a small amount of capital, which, if the house is a success, may be recovered in a comparatively short time. Plumbing must be sanitary, water supply must be adequate, while a delivery room and a proper supervisor are essentials. The delivery room may be secured with time, plenty of enamel paint and a very inexpensive equipment. The supervisor is a very different matter. She should be a trained nurse and she should not have all of the work of the house to do as well as to officiate at deliveries. Just at the

present moment nurses are very hard to obtain. Indeed, they would always be so for rural places. Because of this, it is sometimes necessary to depend upon experienced nursing but even in this case a nurse could go to a large city and graduate from some maternity hospital from which she would obtain a certificate of special training. In some of the eastern states small experiments of this sort are being tried out and we hear that they are meeting with great success, that women are eager to avail themselves of the service of such an institution, and that the obstetrical record is a good one.

Community Obstetrical Center

Another possibility is to interest a group of people in the establishment of an obstetrical center as a part of a community program, taking perhaps a county or a section of a county as the unit upon which the burden of support should fall. It may be noted that there is in this scheme no suggestion as to what may be done to care for the very poor. This is not intended to care for this class especially. The cause of the down and out has been pushed to a great extent in the city until the two classes which claim nearly all of the medical attention are the down and out and the very rich. It is time that we planned systematically to care medically for the self-respecting people of moderate means who do not need or desire charity but who are entitled to good service if they pay a moderate sum for it. The establishment of county or divisional obstetrical centers would be a step towards accomplishing this. It would not be long, we believe, before rural women would avail themselves of the privilege of such service.

It Occurred in Ohio

In Ohio, women at times have to care for themselves to an amazing degree. The writer met, a few weeks ago, in one of our rather thickly populated districts, a woman, the mother of nine children, who was to give birth to a tenth child. She was going to her sister's and taking five children with her—two pairs of twins and an older girl to care for them. She was leaving behind a husband and three boys, while another girl was being boarded out. She had attempted to stay at home but could not obtain either nurse or servant under the circumstances. She told of having stayed at home alone when the last twins were born and of having sat up in bed and bathed both children herself the day after they were born. This was necessary because the only neighbor who

could come to her had to return home because of illness. Needless to say she had not been strong since the experience. Cases of this sort are all too common and this very woman expressed her indignation that there was no local hospital to which she could go and yet keep in touch with her family and home. This sounds like pioneer life in the West and yet it occurred right here in Ohio.

It would seem that at least a small experiment might be worked out in this state to demonstrate the value or otherwise of a co-operative scheme of this sort, which would offer to the woman of moderate means a safe place where she could go and, while not leaving her family quite behind her, yet secure the quiet and freedom from the nagging home details which she needs during the obstetrical period.

RESULTS OF HOSPITAL QUESTIONNAIRE.

Kind of Institution	Questionnaires sent out	Questionnaires returned	Number of women received	Number of births		Number of deaths		Children under three received	Children under three dismissed	Children under 3 remaining	Deaths of children under 3	Total of women and children cared for
				Living	Still	Mother	Child					
General hospitals.	131	94	6,947	6,630	289	62	208	.....	.....	.....	.....	18,577
Maternity hospitals and boarding homes	27	26	3,008	2,590	115*	25	237	980	.....	.....	75	6,578
Children's homes { Public	56	52	.....	.....	.....	.....	.....	298	203	144	8	298
{ Private	25	19	.....	.....	.....	.....	.....	84	68	44	4	84
County infirmaries	24	22	13	13	1	.....	1	.....	.....	.....	.....	26
Totals	263	213	9,968	9,233	405*	87	385	1,362	271	188	87	20,563
				9,638*			472					

* Incomplete.

BUILD NEW SANATORIUM AND ENLARGE ANOTHER

Ohio is to have a new district tuberculosis hospital and one of the existing district hospitals is to be enlarged. Decisions to this effect were reached by officials involved at meetings in April.

The new institution will be supported by Ottawa, Erie, Sandusky, and Lorain counties, with the possibility of Huron County joining later. Commissioners of these counties organized the district at a meeting in Elyria April 10. Details of plans will be decided upon later. Huron County was represented at the meeting but reserved its decision on the question of joining in erecting the district.

A new building to be constructed at Springfield Lake Sanatorium will be financed by Summit County. It will be deeded to the sanatorium trustees and will be used, under their control, for Summit County patients, with the proviso that when its full capacity is not needed by Summit County other patients may be admitted. This decision was reached at a meeting of the joint board of commissioners of the five counties in the district, held in Akron April 9. It followed a discussion of several months' duration regarding means of enlarging the hospital's facilities.

FOUND HOSPITALS FOR TUBERCULOUS SOLDIERS

Tuberculosis sanatoria for the treatment of diseased soldiers will be established by the army medical authorities at New Haven, Conn.; Prescott, Ariz.; Asheville, N. C., and Denver, Colo. They will cost about a half-million dollars each.

SPRINGFIELD IS ACTIVE IN EFFORTS TO KEEP CITY'S CHILDREN WELL

Because the necessary information did not arrive until after last month's OHIO PUBLIC HEALTH JOURNAL had gone to press, mention of the Springfield health department's work in child hygiene had to be omitted from the compilation of reports on Ohio cities which are engaged in such activity. The following outline of what Springfield is doing is based upon material furnished by Dr. E. B. Starr, director of the municipal department of public health and sanitation:

Springfield's child hygiene bureau is under the supervision of Dr. C. G. Augustus, assistant director of the department, who is a full-time employee.

A dispensary service is maintained, open between 10 and 11 A. M. on Monday, Wednesday and Friday. Lithographed birth certificates are issued by the department and are accompanied, when sent out, by a leaflet entitled "How to Keep Your Baby Well." A letter bearing the signature of the city manager also goes with the certificate, urging the importance of keeping the certificate and calling attention to the service the city offers to mothers in helping to keep their babies well.

The newspapers of the city are furnished with weekly health articles, many of which deal with questions of child hygiene. Plans are being considered for the purchase of an automobile for one of the department's nurses, who will devote practically all her time to home supervision of infants.

Notes on Child Conservation Campaign

ON the opposite page is shown in reduced size the registration card prepared by the Federal Children's Bureau for use in the weighing and measuring test of children, which is the opening feature of Children's Year, now under way.

The upper half of the card is retained by the child's parents as a record. It will be noted that space is provided for recording subsequent examinations. The reverse side of this upper half, which is not shown, bears a table giving average heights and weights, for boys and girls separately, at birth, at three months, at six months, at each month from the seventh to the forty-eighth inclusive, and thereafter at each year up to sixteen.

The lower half of the card is to be sent to the local committee, which will tabulate the statistics for the Division of Child Hygiene of the State Department of Health, and will then forward it to the Children's Bureau at Washington, where national statistics will be tabulated.

Local chairmen have received instructions to send in to Columbus statements of how many cards they need. Orders will be forwarded to Washington and filled direct from there.

Counties which had been organized for work in the Children's Year campaign up to April 15 were as follows:

Ashland, Ashtabula, Athens, Brown, Butler, Champaign, Clinton, Coshocton, Crawford, Cuyahoga, Darke, Defiance, Erie, Fair-

field, Fayette, Franklin, Gallia, Geauga, Greene, Guernsey, Hamilton, Harrison, Holmes, Huron, Jefferson, Lake, Lawrence, Licking, Lorain, Lucas, Marion, Medina, Meigs, Mercer, Miami, Monroe, Paulding, Pickaway, Portage, Preble, Richland, Sandusky, Seneca, Shelby, Stark, Summit, Tuscarawas, Van Wert, Washington, Williams, Wyandot.

President Wilson has voiced his approval of the nationwide "baby-saving" campaign in the following letter to Secretary of Labor Wilson, of whose department the Children's Bureau is a branch:

THE WHITE HOUSE,
WASHINGTON, MARCH 29, 1918.

MY DEAR MR. SECRETARY: Next to the duty of doing everything possible for the soldiers at the front, there could be, it seems to me, no more patriotic duty than that of protecting the children, who constitute one-third of our population.

The success of the efforts made in England in behalf of the children is evidenced by the fact that the infant death rate in England for the second year of the war was the lowest in her history. Attention is now being given to education and labor conditions for children by the legislatures of both France and England, showing that the conviction among the Allies is that the protection of childhood is essential to winning the war.

I am very glad that the same processes are being set afoot in this country, and I heartily approve the plan of the Children's



THIS CARD SHOULD BE DETACHED
AND RETAINED BY THE PARENTS
READ DIRECTIONS CAREFULLY

CHILDREN'S BUREAU
WEIGHING AND MEASURING TEST

DOES YOUR CHILD PASS?

CARDS MAY BE FILLED OUT BY A PHYSICIAN, OR A NURSE, OR THE CHILD'S PARENTS

NAME OF CHILD _____ ADDRESS _____
(Number.) (Street.) (City.) (County.) (State.)

DATE OF BIRTH _____ 19____ IS THE BIRTH REGISTERED? Yes, No (place a check mark above correct answer).

If not registered, or if the parents do not know, they should ask the local registrar, or write to the State registrar at the capital of the State in which the child was born.

DATE OF EXAMINATION _____ 19____ AGE OF CHILD _____ Years _____ Months.

HEIGHT _____ Inches. WEIGHT _____ Pounds _____ Ounces.

ARE THE CHILD'S HEIGHT AND WEIGHT ABOVE, BELOW, OR EQUAL TO THE AVERAGE FOR HIS AGE?

Find the child's age in the table on the reverse of this card, and, noting (under "Boys" or "Girls") the average height and average weight for his age, place a check mark above the words in the following list which apply—HEIGHT: Average, Above, Below. WEIGHT: Average, Above, Below.

IS THE CHILD'S WEIGHT ABOVE, BELOW, OR EQUAL TO THE AVERAGE WEIGHT FOR HIS HEIGHT?

Find in the table (under "Boys" or "Girls") the height nearest to child's height and note the corresponding weight. Compare the child's weight with this average weight and place a check mark above the word which applies—Average, Above, Below.

REMARKS _____

RECORD OF SUBSEQUENT EXAMINATIONS					
Age.	Height.	Weight.	Age.	Height.	Weight.

(Signature) _____, Examiner.

16-1433

WHEN RECORD IS COMPLETE, DETACH THIS CARD ALONG DOTTED LINE AND SEND TO THE CHILDREN'S BUREAU.
If this card is mailed without envelope, no postage is required. For reading cards filled out at a center or children's health conference, see "Suggestions to Consultants."
Information on this card will be tabulated by the Children's Bureau. The results will indicate the development of the Nation's children.

READ ALL DIRECTIONS CAREFULLY

NAME OF CHILD _____ ADDRESS _____
(Number.) (Street.) (City.) (County.) (State.)

DATE OF BIRTH _____ 19____ IS THE BIRTH REGISTERED? Yes, No (place a check mark above correct answer).

If not registered, or if the parents do not know, they should ask the local registrar, or write to the State registrar at the capital of the State in which the child was born.

COUNTRY OF BIRTH OF CHILD'S PARENTS: FATHER WAS BORN IN _____ (Country.)

MOTHER WAS BORN IN _____ (For example: Canada, Russia, U. S. A., etc.)

RACE: FATHER _____ MOTHER _____
(Write one of the following for each parent: White, Colored, American Indian, Japanese, Chinese, Filipino, or other.)

DATE OF EXAMINATION _____ 19____ MALE, FEMALE (place a check mark above correct answer).

HEIGHT _____ Inches.

Measure all children without shoes. To measure a baby: Lay him stretched to his full length on a table, and measure between two books held one at the head and the other at the feet. To measure a child able to stand: Use a measuring apparatus if not available, place the child with heels and back of head touching the wall, and measure from the floor to a book or small box held flat on his head.

WEIGHT _____ Pounds _____ Ounces.

Weigh children under 5 years without clothing, or wrapped in this sheet as towel; the weight of which is deducted. Weigh children 5 years and over in ordinary indoor clothing. Babies may be weighed on standard grocery scales with scale pan. If these are not available, the weight may be taken on a platform scale (an adult holding the baby is weighed, and the weight of the adult is deducted).

IS CHILD APPARENTLY HEALTHY AND FREE FROM SERIOUS DEFECT? Yes, No (place a check mark above correct answer).

REMARKS _____

(Signature) _____, Examiner.
(If a physician makes the examination, add "M. D." after signature.)

Bureau and the Woman's Committee of the Council of National Defense for making the second year of the war one of united activity on behalf of children, and in that sense a children's year.

I trust that the year will not only see the goal reached of saving

100,000 lives of infants and young children, but that the work may so successfully develop as to set up certain irreducible minimum standards for the health, education, and work of the American child.

Cordially and sincerely, yours,

WOODROW WILSON.

GOVERNOR GIVES SUPPORT TO CHILDREN'S YEAR

In a letter to the State Department of Health, Governor Cox has expressed his interest in the Children's Year campaign and his wish that the people of the state may give liberal aid to the movement. The Governor's letter is as follows:

STATE OF OHIO
EXECUTIVE CHAMBER
COLUMBUS

APRIL 12, 1918.

DR. ALLEN W. FREEMAN,
*Commissioner of Health,
State Department of Health,
Columbus, Ohio.*

MY DEAR DR. FREEMAN:

I wish to express to you my interest in the work for "Children's Year" which the State Department of Health is fostering in Ohio. There is surely no patriotic duty of which the people of this state should be more conscious than that towards the children,—their third line of defense. England has shown in a most dramatic way what may be done to protect the children of a nation.

It is my sincere wish that Ohio may be one of the first states to take radical steps to promote a program for child welfare which may prove an efficient defense against loss of child life. I hope too that the people of Ohio will give freely of time, effort and money to reduce her child mortality to the minimum.

Very truly yours,
(Signed) JAMES M. COX.

Precautions have been urged upon local child welfare committees to see that children are safeguarded against exposure to spring infections at the examination centers. Large groups, it is recommended, should not be assembled at any one time, and children showing symptoms of illness should be promptly sent away. It has also been recommended that examinations be given by appoint-

ment, and that mothers coming out of turn lose their places.

Local committees are advised to use all possible means to impress upon their communities the fact that the Children's Year drive is a war measure—that it is not a matter that can be shelved until later on when the country is not so busy. The idea that the campaign is undertaken as a precau-

tion against such a rise in infant mortality as war is likely to bring should be constantly emphasized. The statistics on January infant mortality, given in this issue, can be used to advantage in many counties, as demonstrating that 1918 is going to produce an abnormally high rate, rather than a 30 per cent reduced one, unless the campaign is supported.

The milk question in many cities needs to receive careful attention before the arrival of the hot summer months brings the situation to a crisis. Investigations by the Division of Child Hygiene of the State Department of

Health, while not yet complete enough to permit publication of results, indicate that the problem is a serious one in many places in the state. Rising prices tend to reduce consumption of milk, and the babies suffer. Measures to educate mothers in the importance of milk in the diet of the young child must be undertaken, and provision of free milk for destitute families is more necessary than ever before.

The central idea to be emphasized is that milk is the most important article of food for the child of three years or under, and that nothing else can successfully be substituted for milk.

January Baby Deaths in Ohio Cities and Counties

IN the accompanying table is presented the first of a series of monthly compilations of statistics on infant mortality in Ohio counties and cities. The figures herewith show the number of deaths of children under 5 years of age in each county and city in January. For comparison there is presented in each case the maximum monthly average possible if the county or city is to "save" the number of babies assigned to it in the Children's Year campaign.

Caution must be observed in using these figures, in order not to draw wrong conclusions. For instance, a city whose January rate is approximately equal to, or even a little less than, its ideal monthly average can not afford because of that fact to rest on its oars; it must be remembered that the midsummer infant deaths are always more numerous than the winter ones, and that winter rates must therefore be well below the average if the year's total is not to be too high. In the counties and cities having very small death totals and quotas, monthly averages can not be very accurate, as the omission of fractions causes proportionately larger errors than in those with greater totals.

It is hoped to have figures for the first three months of the year ready for next month's issue. These will show clearly just what the situation was in each county or city immediately before the opening of Children's Year.

Local committees desiring detailed figures showing deaths in January of babies under 1 month, from 1 to 12 months and from 1 to 5 years can obtain them from the State Department of Health. Lack of space prevents the publication of this large mass of material in the JOURNAL. The table for the state at large follows:

DEATHS UNDER FIVE YEARS OF AGE IN OHIO COUNTIES AND CITIES:

<i>County or City.</i>	<i>Maximum monthly average under baby- saving plan.</i>	<i>Total for January, 1918.</i>	<i>County or City.</i>	<i>Maximum monthly average under baby- saving plan.</i>	<i>Total for January, 1918.</i>
Adams	3	2	Fayette	3	9
Allen	10	20	Washington		
Delphos	1	0	C. H.	2	6
Lima	6	14	Franklin	36	57
Ashland	3	2	Columbus	31	51
Ashland	2	1	Fulton	3	2
Ashtabula	10	10	Gallia	4	2
Ashtabula	4	6	Gallipolis	1	0
Conneaut	3	1	Geauga	1	2
Athens	8	17	Greene	4	5
Athens	1	5	Xenia	2	1
Nelsonville	3	0	Guernsey	7	9
Auglaize	4	1	Cambridge	3	3
St. Mary's	1	0	Hamilton	71	106
Wapakoneta	1	0	Cincinnati	60	92
Belmont	24	25	Norwood	2	1
Bellaire	5	5	St. Bernard	2	2
Martins Ferry	4	2	Hancock	5	5
Brown	3	4	Findlay	2	1
Butler	16	25	Hardin	6	3
Hamilton	6	11	Kenton	2	2
Middletown	7	9	Harrison	2	1
Carroll	1	5	Henry	2	2
Champaign	3	3	Highland	3	3
Urbana	1	0	Hocking	4	3
Clark	11	9	Holmes	2	4
Springfield	9	7	Huron	4	3
Clermont	3	5	Bellevue	1	0
Clinton	2	3	Norwalk	1	0
Columbiana	15	17	Jackson	5	7
East Liverpool	6	4	Jackson	1	0
Salem	2	1	Wellston	1	3
Wellsville	3	5	Jefferson	22	35
Coshocton	4	6	Steubenville	11	11
Coshocton	2	3	Knox	4	11
Crawford	4	4	Mt. Vernon	2	2
Bucyrus	1	2	Lake	4	5
Galion	1	0	Painesville	1	3
Cuyahoga	175	265	Lawrence	9	6
Cleveland	161	242	Ironton	3	4
East Cleveland	1	2	Licking	7	8
Lakewood	3	10	Newark	4	6
Darke	5	7	Logan	3	6
Greenville	1	0	Bellefontaine	2	2
Defiance	3	3	Lorain	18	18
Defiance	1	0	Elyria	4	3
Delaware	4	4	Lorain	11	10
Delaware	2	1	Lucas	53	59
Erie	3	5	Toledo	49	54
Sandusky	2	4	Madison	3	3
Fairfield	4	11	Mahoning	51	66
Lancaster	2	3	Youngstown	37	48

<i>County or City.</i>	<i>Maximum monthly average under baby- saving plan.</i>	<i>Total for January, 1918.</i>	<i>County or City.</i>	<i>Maximum monthly average under baby- saving plan.</i>	<i>Total for January, 1918.</i>
Marion	6	5	Seneca	4	7
Marion	3	4	Postoria	1	2
Medina	3	7	Tiffin	2	3
Meigs	3	3	Shelby	4	4
Mercer	4	4	Sidney	2	1
Miami	4	11	Stark	25	47
Piqua	2	0	Alliance	3	7
Troy	1	3	Canton	12	29
Monroe	2	2	Massillon	2	5
Montgomery	29	39	Summit	47	61
Dayton	24	37	Akron	35	41
Morgan	2	1	Barberton	4	6
Morrow	2	1	Trumbull	13	12
Muskingum	8	8	Niles	3	3
Zanesville	5	6	Warren	4	6
Noble	4	5	Tuscarawas	9	16
Ottawa	3	5	Dover	1	2
Paulding	3	2	New Philadelphia	2	2
Perry	5	4	Union	3	4
Pickaway	1	4	Van Wert	3	3
Circleville	2	0	Van Wert	1	1
Pike	3	2	Vinton	3	1
Portage	4	4	Warren	3	3
Ravenna	2	2	Washington	6	5
Preble	2	1	Marietta	2	2
Putnam	4	8	Wayne	4	4
Richland	6	9	Wooster	1	1
Mansfield	4	5	Williams	2	4
Ross	6	7	Wood	6	10
Chillicothe	2	1	Bowling Green	1	0
Sandusky	4	3	Wyandot	2	4
Fremont	2	1			
Scioto	15	19			
Portsmouth	8	12			
			Totals, State	902	1,232

SCHOOL OUGHT TO HAVE BEEN CALLED HOSPITAL

The need for medical inspection in rural schools is graphically portrayed by Dr. J. N. Hurty, secretary of the Indiana State Board of Health, in the following description of a visit he paid to such an institution:

"In one rural school of twenty-seven pupils, I found seven anemic, emaciated children and five of these were actually starving. One little wizened girl had had one batter-

cake with molasses for breakfast, and in her dinner-bucket for lunch was one soggy biscuit and one small apple. All of the twenty-seven pupils in this school needed medical attention. There was not a child that did not have two or more decayed teeth. Every child had suffered from one or more attacks of so-called 'cold' during the winter, and sixteen said they had had colds since school opened in the fall. There was not a clean tongue in the school; even the teacher's wore a coat, and she, too, had several

decayed teeth. One child had a running ear, seven had defective sight, every child had dirty ears, dirty neck and dirty scalp, and, of course, we found diseased tonsils, enlarged neck glands, pigeon breasts, and eruptions. One girl fifteen years old, still in the third grade, suffered with dementia precox. The word hospital should have been over the door instead of District School No. 3. The evidence in this instance was conclusive of the opinion that life is a disease."

PHYSICIANS SUMMONED TO JOIN ARMY RESERVE

Thousands more American physicians are needed for the army Medical Reserve Corps, according to an appeal from the Surgeon General's office under date of April 8.

For the army of 1,500,000 which estimates indicate will be in France by the end of the present year, 15,000 medical officers will be required, says Surgeon General Gorgas, who adds that at date of writing there were on active duty 15,174 officers of the Medical Reserve Corps.

For the troops who will be in training in this country by the end of the year, brought in by the second and possibly by subsequent drafts, a supply of physicians must be enlisted at once, as the available list of the Reserve Corps is insufficient to meet these demands.

The requirements for a commission in the Medical Reserve Corps are that the applicant be a male citizen of the United States, a graduate of a reputable school of medicine, authorized to confer the degree of M. D., and that he be between the ages of 22 and 55

years and professionally, morally and physically qualified for service.

Boards of officers, to examine applicants for medical commissions, have been convened in large cities and at army camps throughout the country.

"As the war progresses the need for additional medical officers becomes each day more and more apparent," says the Surgeon General. "Although the medical profession of the country has responded as has no other profession, future response must be greater and greater."

U. S. HEALTH SERVICE IS STUDYING SERUMS

An investigation by the United States Public Health service, now under way, has as its object the improvement of methods for the prevention and control of communicable diseases, especially near the army cantonments. The study involves both laboratory and field work, and the special facilities of the United States Hygienic Laboratory in Washington will be utilized.

The work will relate largely to the standardization and preparation of serums. The first serum to be studied will be that used in cerebro-spinal meningitis.

Methods for securing a more reliable serum for meningitis will be sought, and when found, their use will be enforced through the control of the Public Health Service over the interstate transportation of serums.

The average American workman, it is estimated, loses through illness about nine days' work each year. This total could no doubt be reduced by wider installation of medical supervision in industries.

Public Health Nursing Service

Report for February, 1918

City.	Home Visits.	Other Visits.	Number of Patients Under Care.	Number of Nurses Employed.
<i>Population 100,000 and over:</i>				
Cincinnati — Anti-Tuberculosis League	822	....	1,085	7
Cincinnati — V. N. A.	2,166	....	526	12
Columbus — Anti-Tuberculosis League .....	.....	135	970	3
Columbus — V. N. A.	2,294	....	647	11
Dayton	3,687	....	1,379	14
Toledo .....	.....	188	4,357	20
Youngstown	2,059	6	386	9
<i>Population 25,000 to 100,000:</i>				
Canton	535	....	76	3
Hamilton	100	42	145	1
Lima	624	24	107	3
Springfield — City Health Dept.	154	14	104	1
Springfield — Federation of Women's Clubs	98	21	60	1
Zanesville — Welfare Organization	90	53	65	1
Zanesville — Federation of Women's Clubs	82	39	31	1
<i>Population 8,000 to 25,000:</i>				
Ashtabula	80	140	65	1
Bellefontaine	145	8	50	1
Bucyrus	140	11	24	1
Cambridge	134	80	32	1
Delaware	192	48	33	1
Elyria	90	22	35	1
Lancaster	120	13	35	1
Lorain .....	.....	....	26	1
Mansfield	105	1	32	1
Marietta	76	36	19	1
Marion	138	41	38	1
Massillon	159	39	56	1
Piqua	160	42	33	1
Portsmouth	677	79	448	4
Xenia	59	....	19	1
<i>Population 5,000 to 8,000:</i>				
Circleville	80	18	31	1
Greenville	164	5	12	1
Norwalk	74	73	....	1
Ravenna	111	36	23	1
Sidney	138	65	35	1
Urbana	102	4	18	1
<i>Population 2,500 to 5,000:</i>				
Bryan	31	76	41	1
Cuyahoga Falls	71	26	....	1
Greenfield	49	32	28	1
Shelby	200	10	42	1

City.	Home Visits.	Other Visits.	Number of Patients Under Care.	Number of Nurses Employed.
<i>Counties:</i>				
Franklin (northern part).....	44	30	39	1
Hamilton	42	26	181	1
Lake	33	21	25	1
Licking	60	44	33	1
Trumbull (part month).....	82	48	133	1
Tuscarawas	41	99	46	1
Total	16,308	1,695	11,570	121

The 11,570 patients under care, except Dayton's 1,379, which are not listed by causes, were grouped as follows, according to the nature of their cases:

<i>Communicable Diseases—</i>	
Tuberculosis	4,199
All others	82
<i>Maternity—</i>	
Prenatal	256
Postnatal	226
<i>Infant under two years—except eye.....</i>	2,857
<i>Eye—</i>	
Infant under two years.....	27
All others	44
<i>Other Diseases—</i>	
Medical	1,760
Surgical	622
<i>Social Service</i>	118
Total	10,191

How the Venereal Disease Problem is Being Met in Ohio

CARRYING OUT the policy announced at the beginning of the year, of waging a vigorous fight against venereal diseases, the State Department of Health is setting machinery for this work in motion as rapidly as possible and as completely as funds at its disposal will permit. With the importance of efforts along this line accentuated by war conditions and the need for conserving the soldiers' health, the task is assumed as a wartime duty.

Dr. H. N. Cole, of Cleveland,

who volunteered to perform the service without pay, has been placed in charge of the Department's bureau of social hygiene, which will handle the venereal disease activities. Dr. Cole will direct the work from Cleveland, where he is doing instructional work in dermatology and syphilis in the medical department of Western Reserve University.

Educating the Public

Educational measures play an important part in the Department's

program. These are undertaken with the object of disseminating accurate information regarding sex hygiene and venereal diseases, especially among young men, and building up in the public an attitude which will make frank dealing with the subject possible. Placards, pamphlets, leaflets and newspaper publicity are employed.

Closely allied with the educational side of the program is a bureau of sex advice which has been installed in the Department. In the printed matter sent out, the public is invited to address personal inquiries on any phase of sex hygiene to the Department. These questions will receive the confidential personal attention of a competent adviser. It is hoped in this way to be able to meet individual problems which general propaganda will only partly solve.

Free Wasserman Tests

The laboratories of the Department are co-operating in the work by giving free Wasserman examinations for the diagnosis of syphilis. This service is offered on the same basis as other diagnostic facilities of the laboratories. Outfits and instructions for obtaining and mailing blood specimens are distributed free upon request to physicians, state institutions and other applicants. That these official outfits be used is the only condition attached to the Department's offer of free Wasserman examinations.

The Department is giving active co-operation to local movements for handling the venereal disease situation in the various cities. Organization of clinics and provision of hospital beds for venereal patients are given special attention. Programs for the control of the diseases are being worked out

by local organizations in Cleveland, Cincinnati, Toledo, Columbus and other cities. Regulation of carriers of venereal diseases, as of other infections, is largely a matter to be handled by local health authorities, but the State Department of Health is giving all possible assistance in the task and is endeavoring to bring about a more general realization of the importance of such regulation.

Army Gives Assistance

Through co-operation of the military authorities within the state, sources of infection are located and treated.

The work of handling the venereal disease situation is, under the plan outlined, organized on a more or less incomplete basis. Sufficient money to finance a more thorough organization, however, is not at present available. The committee on health, hospitals and nursing of the State Council of National Defense is preparing a budget to finance the work during the year 1918-19. It is felt also that legislation will have to be devised to place more power in the hands of the health authorities in this regard, before the problem can be adequately met. What is being done, however, is far more than a feeble beginning, and will serve as a valuable basis for more extended work which, it is hoped, can be taken up later.

The patriotic service of Dr. Cole is worthy of the State's highest commendation. He is a man of very large experience in the treatment of venereal diseases, and the people of Ohio are fortunate in having him step into the breach so willingly at a time when the need was so pressing and so little provided for.

DEPARTMENTAL REPORTS BY DIVISIONS

DIVISION OF COMMUNICABLE DISEASES

Reported Cases of Notifiable Diseases, March, 1918

Prevalence. The March total of 13,055 reported cases of notifiable diseases is three cases higher than the total for March of last year but is over 5,800 cases lower than the reported total for March, 1916. Measles caused the particularly high total of 1916 as shown by Table I following, 12,222 cases having been recorded for March, 1916, compared with 2,192 cases for March, 1918. Smallpox, mumps and German measles show marked increases for March of this year over previous years. In order of greatest reported prevalence for March the diseases list as follows:

<i>Disease.</i>	<i>Reported Cases.</i>
1. German Measles	2,948
2. Measles	2,192
3. Smallpox	1,560
4. Mumps	1,420
5. Whooping Cough	1,075
6. Scarlet Fever	921
7. Chickenpox	685
8. Tuberculosis	594
9. Diphtheria	560
10. Pneumonia	474
11. Gonorrhea	142
12. Ophthalmia Neonatorum	129
13. Typhoid Fever	117

For no other one notifiable disease was a total of 100 cases or more recorded for March. The cities reported 6,288 cases, 48 per cent of the state total as compared with 56 per cent of the state total recorded for cities during February and January.

Smallpox. The 1,560 reported cases of smallpox for March give a total of 7,496 cases for the past six months of the present epidemic. The March figure is a decrease of only forty-three cases from the February total, 1,613 cases. The cities reported 58 per cent of the cases as shown by Table II following.

Typhoid Fever. The 117 cases recorded give a case rate for March of .022 per 1,000 population compared with .036 and .033 for March, 1917, and March, 1916, respectively. The cities reported 73 per cent of the cases, the same proportion recorded for cities in February. Table II shows the distribution of cases by cities.

Meningitis Cerebro-spinal. Thirty-nine of the fifty-seven cases of meningitis were reported by cities, Cleveland recording the largest number, ten cases; Cincinnati, next highest, five cases; Akron and Dayton, four each; Toledo and Youngstown, two each; the other cases being reported singly by twelve cities. The remaining eighteen cases reported

by districts other than cities occurred by counties as follows: Ashtabula County one, Belmont County one, Hamilton County one, Henry County one, Jackson County one, Medina County one, Muskingum County one, Pike County three, Scioto County two and Summit County one case.

Poliomyelitis. The eight cases of poliomyelitis were recorded for the following districts: Cleveland two, Columbus two, Norwood one, Toledo one, Mercer County, Greenville Township, one, and Wyandot County, Crane Township, one case.

TABLE I.—REPORTED CASES OF NOTIFIABLE DISEASES, OHIO, MARCH, 1916-1918, WITH DISTRIBUTION FOR CITIES AND FOR VILLAGES AND TOWNSHIPS, MARCH, 1918, AND CASE RATES PER 1,000 POPULATION, MARCH, 1916-1918.

Notifiable Diseases.	March, 1918.			March, 1917.	March, 1916.	March Case Rates Per 1,000 Population.		
	Cities.	Villages and Townships.	Total.*			1918.	1917.	1916.
All Notifiable Diseases	6,288	6,515	13,055	13,052	18,947	2.480	2.506	3.676
Chickenpox	407	278	685	1,078	713	.130	.207	.138
Diphtheria	442	117	560	562	618	.106	.108	.120
Gonorrhea	42	27	142	98	136	.027	.019	.026
Measles	1,025	1,126	2,192	6,089	12,222	.416	1.169	2.371
Measles, German	908	2,040	2,948	284	90	.560	.054	.017
Meningitis, Cerebrospinal	39	18	57	101	23	.011	.019	.004
Mumps	440	665	1,420	589	384	.270	.113	.074
Ophthalmia Neonatorum ...	113	16	129	225	125	.024	.043	.024
Pneumonia, Acute Lobar...	288	153	474	621	576	.090	.119	.112
Poliomyelitis	6	2	8	7	7	.001	.001	.001
Scarlet Fever.....	402	467	921	1,308	1,564	.175	.251	.303
Smallpox	917	643	1,560	338	216	.296	.065	.042
Syphilis	57	18	86	64	79	.016	.012	.015
Trachoma	24	4	28	57	14	.005	.011	.003
Tuberculosis, All Forms	529	65	594	689	692	.113	.132	.134
Typhoid Fever....	82	35	117	188	172	.022	.036	.033
Whooping Cough	558	517	1,075	740	1,290	.204	.142	.250
Other Notifiable Diseases	9	50	59	14	26	.011	.003	.005

* Total figures include cases reported by Camp Sherman and Wright Aviation Field.

TABLE II—REPORTED CASES OF TEN NOTIFIABLE DISEASES, WITH
TOTAL CASE RATES PER 1,000 POPULATION, OHIO CITIES,
MARCH, 1918.

City.	Total Case Rate Per 1,000 Pop- ulation.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis, Cere- bro-spinal.	Pneumonia, Acute Lobar.	Polio-myelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
TOTAL	1.544	4,288	442	1,025	39	288	6	402	917	529	82	558
Akron	3.916	356	44	62	4	7	...	43	140	29	...	27
Alliance .....	.900	18	3	4	1	2	...	2	4	...	...	2
Ashland* .....	...	...	...	...	...	...	...	...	...	...	...	...
Ashtabula .....	.135	3	...	...	...	...	...	...	...	2	1	...
Athens .....	.804	6	...	...	...	2	...	1	2	1	...	...
Barberton* .....	.584	8	...	...	...	...	...	2	6	...	...	...
Bellaire	1.260	20	2	13	1	...	...	1	...	1	2	...
Bellefontaine	3.990	38	...	24	...	...	...	...	5	1	...	8
Bellevue .....	.815	5	...	...	...	...	...	...	...	3	...	2
Bowling Green .....	.187	1	...	...	...	...	...	...	...	1	...	...
Bucyrus .....	.954	9	...	1	...	3	...	2	1	...	...	2
Cambridge .....	.426	6	...	1	1	...	...	1	1	...	...	2
Canton .....	.780	52	5	12	...	...	...	15	17	2	1	...
Chillicothe	4.599	73	12	21	1	2	...	32	4	1	...	...
Cincinnati	1.106	553	58	136	5	5	...	26	74	149	3	97
Circleville	1.332	9	...	9	...	...	...	...	...	...	...	...
Cleveland	1.028	212	99	10	185	2	29	198	137	3	153	...
Columbus	1.556	389	2	137	1	...	2	106	56	29	2	54
Conneaut	2.033	19	1	1	1	2	...	3	1	...	5	5
Coshocton .....	.164	2	...	...	...	...	...	...	2	...	...	...
Dayton	1.792	256	7	155	4	16	...	18	30	16	...	10
Defiance .....	.816	6	...	...	...	...	...	...	...	1	5	...
Delaware .....	.300	3	1	...	...	...	...	...	1	...	1	...
Delphos	3.294	18	...	15	...	3	...	...	...	...	...	...
Dover	1.179	9	3	2	1	2	...	...	...	1	...	...
East Cleveland	2.967	43	3	3	...	...	...	5	2	3	...	27
East Liverpool	1.161	27	...	7	...	...	...	3	11	2	4	...
Elyria	1.150	23	9	3	...	...	...	1	3	2	1	4
Findlay	2.881	43	1	25	...	2	...	1	13	1	...	...
Fostoria .....	.900	10	...	3	...	...	...	2	3	2	...	...
Fremont	2.673	27	...	12	...	2	...	...	3	3	2	5
Galion .....	.556	4	1	1	...	...	...	1	...	...	1	...
Gallipolis* .....	...	...	...	...	...	...	...	...	...	...	...	...
Greenville .....	.584	4	...	...	...	...	...	4	...	...	...	...
Hamilton .....	.980	45	...	4	...	2	...	...	29	6	1	3
Ironton .....	.980	14	...	3	...	...	...	1	...	2	4	4
Jackson .....	.163	1	...	...	...	...	...	...	...	...	1	...
Kenton .....	.405	3	...	2	...	...	...	1	...	...	...	...
Lakewood .....	.861	21	2	1	...	1	...	7	5	3	...	2
Lancaster	2.562	42	1	17	...	...	...	14	10	...	...	...
Lima	2.670	89	10	...	...	...	...	...	76	2	...	1
Lorain .....	.625	25	6	...	...	6	...	3	5	1	2	2

TABLE II—REPORTED CASES OF TEN NOTIFIABLE DISEASES, WITH TOTAL CASE RATES PER 1,000 POPULATION, OHIO CITIES, MARCH, 1918—Concluded.

City.	Total Case Rate Per 1,000 Pop- ulation.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis, Cere- bro-spinal.	Pneumonia, Acute Lobar.	Poliomyelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
Mansfield	1.290	30	1	.....	.....	3	.....	.....	1	3	.....	22
Marietta .....	.268	4	1	.....	.....	.....	.....	.....	3	.....	.....	.....
Marion* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Martins Ferry.....	.291	3	1	2	.....	.....	.....	.....	.....	.....	.....	.....
Massillon .....	.768	12	5	4	.....	.....	.....	3	.....	.....	.....	.....
Middletown	3.599	59	.....	4	1	5	.....	.....	43	2	2	2
Mt. Vernon .....	.243	3	.....	1	.....	.....	.....	.....	2	.....	.....	.....
Nelsonville .....	.604	4	.....	.....	.....	3	.....	1	.....	.....	.....	.....
New Philadelphia..	2.375	25	.....	11	.....	.....	.....	.....	13	1	.....	.....
Newark	1.024	32	1	13	.....	.....	.....	5	12	.....	1	.....
Niles .....	.660	6	2	1	1	1	.....	1	.....	.....	.....	.....
Norwalk .....	.468	4	.....	.....	.....	3	.....	1	.....	.....	.....	.....
Norwood	3.198	78	.....	49	.....	1	1	3	1	6	.....	17
Painesville* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Piqua	1.587	23	3	2	.....	2	.....	6	4	3	.....	3
Portsmouth .....	.957	29	1	4	1	1	.....	.....	20	.....	2	.....
Ravenna* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Bernard .....	.474	3	.....	.....	.....	.....	.....	.....	1	1	.....	1
St. Marys.....	.166	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Salem .....	.792	8	.....	.....	.....	.....	.....	8	.....	.....	.....	.....
Sandusky	1.078	22	.....	.....	.....	3	.....	.....	15	2	2	.....
Sidney	1.360	10	1	1	1	.....	.....	3	4	.....	.....	.....
Springfield .....	.950	50	1	14	1	5	.....	.....	4	8	1	16
Steubenville .....	.515	15	2	7	.....	1	.....	1	1	2	1	.....
Tiffin	3.040	40	.....	.....	.....	1	.....	1	3	2	.....	26
Toledo	1.425	285	23	60	2	3	1	39	39	78	10	30
Troy .....	.158	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Urbana	3.393	29	.....	23	.....	6	.....	.....	.....	.....	.....	.....
Van Wert.....	1.419	11	.....	4	.....	.....	.....	3	3	1	.....	.....
Wapakoneta .....	.306	2	.....	1	.....	.....	.....	.....	1	.....	.....	.....
Warren .....	.888	12	3	3	.....	.....	.....	.....	3	1	.....	2
Washington C. H..	.234	2	1	.....	.....	.....	.....	.....	1	.....	.....	.....
Wellston	1.305	9	.....	7	.....	.....	.....	2	.....	.....	.....	.....
Wellsville	1.540	14	3	3	.....	.....	.....	.....	7	1	.....	.....
Wooster* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Xenia .....	.805	7	.....	.....	.....	.....	.....	.....	7	.....	.....	.....
Youngstown	1.152	128	9	31	2	8	.....	1	27	12	9	29
Zanesville .....	.589	19	.....	.....	.....	.....	.....	.....	.....	4	15	.....

* Ashland and Painesville reported no notifiable diseases present during March. Reports from Barberton were incomplete and from Gallipolis, Marion, Ravenna and Wooster delinquent for March to date of April 12.

DIVISION OF PUBLIC HEALTH EDUCATION AND TUBERCULOSIS

Summary of Activities in March, 1918

Educational Work

A total of 4,510 pieces of literature, on twenty-six subjects, was distributed. A plan for the systematic ordering, distributing and recording of literature distributed was worked out during the month.

Eight lectures were given by representatives of the division. In addition the Director gave three lectures on health to the Home Service Institute of the American Red Cross and three lectures to classes in sanitation in the department of home economics of Ohio State University.

Twenty-nine newspaper publicity stories were released — twenty-one through the weekly news letter, three to medical publications and five to particular localities. The news letter stories reached 600 papers and were used in 176 papers in 132 villages and cities in seventy-eight counties, attaining a total circulation estimated at 4,037,739. Since its first mailing late in January the news letter has had a story circulation slightly under 9,000,000.

Copy for three of a series of venereal disease pamphlets was revised, a smallpox pamphlet was issued and typhoid fever and poliomyelitis pamphlets were in the hands of the printer.

Volume IX, Number 3 (March, 1918) of the OHIO PUBLIC HEALTH JOURNAL, a child hygiene number, was issued.

Public Health Nursing Service

Resignations during the month were those of Miss Wilma Kilmer, public health nurse at Rossford; Miss Eva Johnson, Marietta, and Mrs. Daisy Kingston, Fremont. Miss Kilmer is succeeded by Miss Elvera Weidland and Miss Johnson by Miss H. F. Dye. Lakewood has appropriated money for a public health nurse and Mrs. M. F. Morgan has been employed.

PREVENTION OF BLINDNESS

Cases reported	147
White	132
Colored	6
Unknown	9
Male	85
Female	57
Unknown	5
Reported by physicians	53
Reported by midwives	50
Reported by nurses	30
Reported by institutions	6
Reported by physicians and nurses	5
Reported by midwife and nurse	1
Reported by laymen	1
Unknown	1

Instructions by telephone.....	11
To health officers	5
To physicians	1
To nurses	5
Cases cared for in hospital through arrangements made by State Department of Health	4
Cases provided with nursing care by this Department.....	4
Cases investigated by Department.....	6
Cases reported as having impaired vision.....	1
Outfits of prophylactic distributed.....	1,556

Tuberculosis Hospitals

Steps were taken to further organization of the joint board of county commissioners in Proposed District 3. Preliminary work was begun in Proposed District 6.

Inspections were made at Lucas County hospital, Franklin County hospital, Chillicothe district hospital and the Ohio State Sanatorium. Meetings of the trustees of Springfield Lake district hospital and Springfield district hospital were attended.

Conferences of hospital superintendents were resumed with a meeting at Columbus, March 14, at which eighteen were present. Meetings are to be held at intervals of two months.

ADMISSIONS AND DISCHARGES

From March 1 to 31 inclusive, 302 notifications were received, 159 of which were admitted patients. Of these, 206 were referred for investigation and report to local public health nurses: one referred to local health officer; two were reported to other state departments; twenty-nine were investigated by division nurses; thirty-two were found whose histories were not obtainable, and thirty-two were pending investigation.

Of the fifty-eight cases pending investigation March 1st, thirty-two were investigated by division nurses, and two were referred to local public health nurses. Thirty-two pending cases were added, making a total of fifty-six cases pending investigation April 1.

<i>Institutions.</i>	<i>Patients Received.</i>	<i>Admissions.</i>	<i>Discharges.</i>	<i>Total of Admissions and Discharges.</i>
Ohio State Sanatorium.....	56	31	29	60
Butler County Sanatorium.....	3	2	1	3
Franklin County Sanatorium.....	49	31	24	55
Lucas County Tuberculosis Hospital.....	48	34	25	59
Dayton District Hospital.....	17	6	11	17
Lima District Hospital.....	18	10	10	20
Springfield District Hospital.....	20	9	11	20
Springfield Lake Sanatorium.....	32	21	15	36
Rocky Glen Sanatorium.....	9	5	4	9
St. Anthony's Hospital.....	14	10	13	23
Total	266	159	143	302

DISCHARGED TUBERCULOUS SOLDIERS

	<i>March. Summary.</i>	
Notifications Received	29	308
Cases Referred to Public Health Nurses.....	21	216
Reports Received From Public Health Nurses.....	23	115
Cases Written Directly.....	17	84
Replies Received	5	86
Cases Visited by Division Nurses.....	42	44
Cases Admitted to Hospitals.....	2	7
Cases Not Found.....	14	47
Cases Not Heard From.....	17	90

The two field nurses assigned to investigation of tuberculosis cases covered, during the month, a total of 125 individuals, of which number sixty-one were admissions or discharges from tuberculosis hospitals, forty-eight were of discharged tuberculous soldiers, and sixteen were other cases of tuberculosis of which the division had some knowledge.

DIVISION OF SANITARY ENGINEERING

Summary of Activities in March, 1918

Investigations by representatives of the division dealt with seventeen existing water supplies and purification plants, five proposed water supplies, six existing sewerage systems and disposal plants and five proposed sewerage improvements and sewage treatment plants. A sanitary survey of the district surrounding the Wilbur Wright aviation field in Greene County was made.

Plans of proposed sewer improvements were received from Robinson Clay Products Co., New Philadelphia; Butler County Infirmary; Washington County Infirmary; Sandy Lake, Portage County; Ridge Township School, Van Wert County; Rotary Tire and Rubber Co., Muskingum County; Urichsville-Dennison; Union County Infirmary; Liberty Union School, Basil, Fairfield County; Liberty Subdivision, West Park; Newcomerstown; hotel, Bloomville.

Water supply plans were received from Canal Winchester, Struthers, Hamilton, Chardon, Dennison, Chagrin Falls and Wadsworth.

Reports were submitted to the Commissioner of Health regarding extension of time for installation of a new water supply for Wooster, proposed auxiliary water supplies for Hamilton and Lebanon, proposed sewage disposal for Ridge Township School, Van Wert County, and proposed outfall sewer and temporary sewage disposal for Newcomerstown.

Conferences were held with city officials, engineers and other interested parties regarding superintendence of the Youngstown water purification plant, West Fifty-eighth Street sewage disposal plant in Cleveland, Euclid-Shore Haven sewage disposal, proposed sewerage at South Newburg, pollution of Mad River at Springfield, existing water supply at Newark, water supply for Struthers, proposed use of storm sewer for sanitary purposes at West Park, operation of the Cleveland water purification plant, proposed outfall sewer and temporary sewage disposal for Newcomerstown, proposed water purification plant for Ra-

venna, proposed improved water supply for Newark and proposed water supply for Chardon.

✓ Approval was given for Ordinance 159 of the Batavia council, which complies with the third condition of the approval of sanitary sewer plans for Batavia, granted September 21, 1916.

Certificates of approval of railroad water supplies were granted in fifteen cases and refused in one.

DIVISION OF PLUMBING INSPECTION

Summary of Activities in March, 1918

Forty-eight inspections were made during March, in sixteen industrial plants, nine schools, six public and semi-public institutions, three university buildings, three churches, two county and municipal buildings, two stores, two apartment buildings, one railroad station, one railroad freight house, one office building, one nurses' home and one case of nuisance.

Certificates of approval were issued for a rubber factory at East Palestine, a laboratory at Ohio State University and a school at Taylors.

Plans were examined for four schools, one store and apartment building, one university building, one armory and one warehouse. Eight conferences were held.

DIVISION OF INDUSTRIAL HYGIENE

Summary of Activities in March, 1918

There were reported to the division during the month forty-nine cases of occupational diseases, including machinists' boils, lead poisoning and carbon monoxide poisoning, the diagnoses being investigated in forty-five instances. In addition, 599 cases of tuberculosis among industrial workers were included in physicians' reports during this time.

Complaints were received in regard to the existence of poisonous dusts and gases in various establishments, including automobile factories, glass works, dental supply factories, and rubber works. A part of these have been disposed of, while others are still pending. A number of requests for advice in regard to the elimination of health hazards have also been taken care of.

A 350-page directory of Ohio industries, to which we have added an index, has been completed from material furnished by the Industrial Commission. Material for the pamphlet describing the effects of wood dust on health has been prepared; also, a guide in military hygiene and sanitation for distribution to each cadet in the local aviation school.

Extensive experimental investigations have been continued in regard to the avoidance of oil infections among machinists and also the air conditioning of small premises. Twenty lectures and eight written examinations have been given in the local aviation school.

A number of abstracts of current industrial hygiene literature have

been prepared and published in the *American Journal of Public Health*, and the reference library of the division kept up-to-date. A number of miscellaneous conferences have been held during the month.

DIVISION OF LABORATORIES

March, 1918

Examinations

BACTERIOLOGICAL EXAMINATIONS.

Tuberculosis, pos. 115, neg. 348.....	463
Diphtheria, pos. 29, neg. 211, susp. 21, no growth 2.....	263
Typhoid, pos. 14, neg. 21, susp. 13.....	48
Malaria, neg. 2.....	2
Rabies, pos. 6, neg. 4, susp. 2.....	12
Water	77
Miscellaneous	25
Total	890

CHEMICAL SAMPLES.

Water	13
Miscellaneous	20
Total	33

SAMPLES SUBMITTED BY STATE BOARD OF AGRICULTURE.

Foods	66
Drugs	33
Fertilizers	7
Limestones	0
Stock Foods	33
Insecticides	10
Total	149

SAMPLES FROM STATE LIQUOR LICENSING BOARD..... 0

Grand total 1,072

Distribution of Outfits

Tuberculosis	632
Diphtheria	259
Typhoid	66
Malaria	60
Ophthalmia	1,556
Typhoid vaccine	7
Water, chemical	4
Water, quarts	4
Water, (miscellaneous)	183
Water, bacteriological	69
Total outfits distributed.....	2,860

Food and Drug Samples Tested With Summary of Conclusions Reported

<i>Material.</i>	<i>Total.</i>	<i>Satisfac- tory.</i>	<i>Mis- branded.</i>	<i>Adulter- ated.</i>	<i>Insufficient Information.</i>
Milk	27	11	0	16	0
Cream	3	1	0	0	2
Oleomargarine	1	1	0	0	0
Lard	1	1	0	0	0
Sausage	2	1	0	1	0
Hamburg	7	4	0	3	0
Maple Syrup	3	1	0	2	0
Vanilla Extracts	9	4	0	5	0
Pepper	1	1	0	0	0
Egg Substitutes	8	1	5	2	0
Miscellaneous Foods	4	1	1	0	2
Total	66	27	6	29	4
Tr. Iodine	6	4	0	2	0
Spts. Camphor	1	1	0	0	0
Camphorated Oil	1	0	0	1	0
Bay Rum	4	2	0	2	0
Paregoric	1	0	0	0	1
Acetylsalicylic acid	4	3	0	1	0
Sodium salicylate	1	0	0	1	0
Turpentine	1	1	0	0	0
Proprietaries	5	0	1	0	4
Miscellaneous Drugs	9	0	0	2	7
Total Drugs	33	11	1	9	12
Grand Total	99	38	7	38	16

SOCIAL WORKERS DEAL WITH HEALTH MATTERS

The medical and public health side of social work will be emphasized at the forty-fifth annual session of the National Conference of Social Work, to be held in Kansas City, Mo., May 15 to 22. Among the topics on the program, which indicate this, are:

Care of Convalescents, Medical Inspection of Schools, Public Health Nursing, Hospital Social Service, Nutrition, Health Centers, A National Program of Infant Welfare, National Salvage of the Handicapped, Preparing the Soldier Incapacitated by Nervous or Mental Diseases for Return to Civil Life, Results and Significance of Mental Hygiene Work in the Army.

NO IDEAL CLIMATE FOR TUBERCULOSIS VICTIMS

Conclusions of interest to students of the tuberculosis problem are set forth in *Public Health Reports* by John W. Trask, assistant surgeon general of the United States Public Health Service.

He declares that no section of the country has a climate that is favorable all of the year and few have one that is favorable most of the year. All of the essentials of a cure—fresh air, outdoor life, suitable food, rest, medical care and nursing attention—can usually be found at the sufferer's door. Climate can be controlled by avoiding crowded and overheated rooms and by ventilation of sleeping rooms.

HEALTH OFFICERS' ROUNDTABLE

Columbus Lowers Typhoid Rate

In his annual report for the year 1917, Health Officer Louis Kahn of Columbus notes that the capital city's typhoid mortality rate for the year was the lowest on record, being 7.7 per 100,000. There were 68 deaths from measles during the year, according to the report. Of these, 33 are said to have been among recruits at Columbus Barracks during the first three months of the year, when many young men from the South were sent into the colder climate of the North.

Investigating Arsphenamine

The OHIO PUBLIC HEALTH JOURNAL has received from G. W. McCoy, director of the hygienic laboratory of the United States Public Health Service the following request:

In view of the reports in current medical literature of untoward results from the use of arsphenamine and neoarsphenamine, I have to request that you give publicity to the statement that it is requested that samples of any lots of these arsenicals which have shown undue toxicity be forwarded to the Hygienic Laboratory for examination.

In sending these samples it should be ascertained that the lot number is the same as that of the ampoules used on patients. The samples sent should, if possible, be accompanied by a brief note stating the approximate body weight and age of the patient, the dose and dilution of the drug given, the symptoms and result; that is, whether fatal or not.

Akron Is Districted

For purposes of health administration, Akron has been divided,

on a basis of population, into four districts with a city physician assigned to each.

Springfield Issues Bulletin

The Springfield health department has just issued the first number of a "Health Bulletin" addressed particularly to the physicians of the city. The issue is in the form of a four-page leaflet. Past co-operation of the physicians with the health authorities in registering births and reporting communicable diseases is noted, and there are brief discussions of diphtheria, typhoid fever, meningitis, smallpox, lobar pneumonia, tuberculosis, influenza and venereal diseases.

Favor Full-Time Commissioner

The Toledo commission of publicity and efficiency has filed a report, following an investigation, which makes sweeping charges of inefficiency in the administration of the Toledo health department. The report declared that the single remedy necessary for conditions which it discussed in detail was the appointment of a full-time health commissioner.

Typhoid Poorly Reported

Three deaths from typhoid fever since the first of the year, with only six cases reported, have led Health Officer Landis, of Cincinnati to suspect that cases are not being properly reported. In a recent issue of his department's weekly bulletin he points out that the

fatality rate in typhoid fever is considered to be about 10 percent, rather than the 50 percent figure which these rates would indicate for Cincinnati.

We Wonder Also!

If this had been tuberculosis, what would have happened?

That is the headline which the division of tuberculosis suggests should be placed on the following item from an Akron paper:

When John Smith of 808 S. Main street appeared in Police Court Monday morning to answer to a charge of gambling, his face was a mass of red blotches.

"What's the matter with you?" asked Judge Vaughan.

"The Lord only knows," replied Smith.

Vaughan sent a hurry call for Dr. R. W. E. Cole, city epidemiologist.

"He has a well-developed case of smallpox," said Cole.

Immediately there was a scattering in the courtroom.

Spectators who had been enjoying the Monday morning grist, fought to get through the door at once into the lobby. They went down the stairs three steps at a time.

"See that every prisoner who came in contact with this man is vaccinated," Vaughan ordered. "Also see that all bailiffs and jail attendants are vaccinated. Order the entire place fumigated."

Sixty men were in the city prison when Smith was brought in Sunday morning. He was released several hours later on bond.

Before his appearance Monday, a score of prisoners had been arraigned and released.

An effort will be made immediately to round them all up and see that they are vaccinated.

Judge Vaughan was the first to be vaccinated.

Smith was taken to the pesthouse.

A low-turned gas jet or burner may, through changing pressure or a loose key, change into a raging fire menace while you sleep.

NOTES OF PROGRESS IN SANITARY ENGINEERING IN OHIO MUNICIPALITIES

Zanesville's new water plant, by which the city's Muskingum River supply will be replaced by well water, is expected to begin operations about May 15. The improvement consists of twenty wells and an entire new pumping station.

Filtration of Cleveland's water supply, by means of the new West Side filtration plant, erected at a cost of \$3,500,000, began in March. Fifty million gallons of filtered water per day were supplied at first—enough to supply half the city—and this quantity was doubled by the latter part of April, permitting almost city-wide distribution. The maximum capacity of the plant is estimated at 150 to 160 millions of gallons. The city's maximum daily consumption is 135 millions.

Twelve new wells being drilled to increase Canton's water supply were due to reach completion May 1. Preliminary work is being done in Canton toward the construction of a trunk sewer, for which improvement a bond issue of \$290,000 has been authorized.

A new sewage disposal plant has been completed in Xenia. This plant is of modern design and will produce a highly purified effluent. The plant was installed to correct the pollution of Shawnee Creek, which has been in a foul condition for a number of years.

Infection in the family, coupled with poor housing conditions, is the principal cause of the spread of tuberculosis.

PUBLIC HEALTH NOTES FROM OVER THE STATE

The annual meeting of the Ohio State Medical Association, to have been held in Columbus May 13, 14 and 15, has been postponed until October 1, 2 and 3.

* * *

Akron's health authorities conducted a school survey last month, looking into the general surroundings of buildings and grounds, sanitary conveniences, water supply, ventilating systems, lighting of rooms and arrangement of blackboards and charts.

* * *

Toledo's restricted district has been wiped out of existence by an order from Mayor Schreiber, issued as a wartime health measure at the request of the Federal authorities. The order set May 1 as the date by which the district must cease to exist.

* * *

Leaving her home while it was under quarantine for scarlet fever cost a Dayton woman \$20 and costs last month. Judge Budroe assessed the fine after the offender had entered a plea of guilty.

* * *

For refusing to clean the floors, walls and utensils in his bakeshop, when ordered by the sanitary police to do so, a Lorain baker was fined \$10.

* * *

One hundred thousand persons living or working in Cincinnati have been vaccinated since December 1, 1917, according to city health authorities, who based their estimates upon physicians' reports. Many industrial concerns in Cincinnati have required their employees to be vaccinated.

Plans for the construction of a contagious disease hospital, to cost \$5,000 to \$6,000, are being considered in Lorain.

* * *

The Ohio Supreme Court has upheld a \$35,000 hospital bond issue of Circleville, to which objection was made on the ground that council had not given official notice that the question was to be submitted at an election.

* * *

At a conference of tuberculosis hospital superintendents in Columbus, March 14, these officers were elected for the ensuing year: Chairman, Dr. S. A. Douglass, Mt. Vernon; vice chairman, Mrs. Aloysia Lawin, Columbus; secretary, H. J. Southmayd, State Department of Health, Columbus. Meetings of the conference are to be held every two months.

* * *

Two thousand dollars for the support of the Ravenna Visiting Nurse Association during the coming year was raised in a campaign the week of March 18.

* * *

The Hamilton Anti-Tuberculosis League has elected the following officers: President, Dr. A. C. Carney; vice president, John Conbory; secretary-treasurer, Mrs. E. S. Griffis.

* * *

The Mississippi Valley Conference on Tuberculosis will meet in Columbus during the latter part of September. The Ohio Society for the Prevention of Tuberculosis will meet at the same time and place.

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The Ohio Public Health Journal

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No. 5

EDITORIALS

Summer Months Make Up the "Typhoid Season" The "typhoid season" has arrived. The record of past years shows that the typhoid curve begins to rise in May or June, reaches its highest point in September and then falls off to its low mark in December or January.

Whether this year will see the curve go to as high a point as last depends upon the work which health officials do in the next three months. There can be no delay if we are again to succeed in lowering our typhoid death total. Every health official in the state should feel it a personal duty to improve the situation within his own district.

Look up the record of your district for the past few years. Note how large a share of the death total has usually been crowded into the summer months. Then resolve to make the figures tell a different story for 1918.

* * *

Typhoid Is Easily and Immediately Preventable Typhoid fever is easily preventable, and to a large extent immediately preventable. In the case of no other disease can direct evidence of results achieved by preventive campaigns be so readily collected.

The typhoid problem is fundamentally a simple one. All that is needed to stamp out the disease is to prevent human food and drink from being contaminated by human filth. An abnormally high typhoid rate in a community can be attributed only to neglect of simple sanitary precautions.

The methods of typhoid prevention in both cities and rural communities are discussed elsewhere in this magazine. Stated in a general way, typhoid can be prevented by provision of pure water, proper disposal of sewage, elimination of flies, and regulation of food supplies — especially milk — so as to guard against contamination of these products by typhoid carriers.

Any health officer can do something toward making improvements along these lines. Every time an insanitary toilet is put out of existence—every time the use of a polluted water supply is prevented—every time a campaign for reducing flies and screening against them is instituted—every time, in short, an obstacle is put in the path of the typhoid germ toward the human mouth, the typhoid death rate receives a severe blow.

Typhoid, we repeat, is easily preventable. Any health official who is so inclined can prevent his share. And he will not have to wait long for results. Results will appear at once in the form of a decreased typhoid death rate.

* * *

Typhoid Wastes Millions. Five million dollars wasted every year!
Needed for Liberty Bonds That is what Ohio's present typhoid fever situation means, judged from an economic standpoint. Think how little of this money would be needed to stamp out most of the typhoid! Or think what this amount would do if invested in Liberty Bonds!

Yet we continue to throw our yearly five millions away, merely because we are too careless to direct it into proper channels of expenditure.

The five million dollars is the approximate amount arrived at in a careful statistical study of the situation, taking into account the incidence of the disease in various age-groups, the estimated value of the human lives lost at these different ages, the loss of time from productive employment and the cost of treatment.

With an average of about seven hundred deaths per year in the state, it is estimated that the case total must reach at least seven or eight thousand, fatalities being estimated at from one-fifteenth to one-tenth of the cases. The money loss represented by the deaths has been put at three millions per year and that represented by both deaths and non-fatal cases at five millions.

When there are as many other uses for five million dollars a year as there are at present, with war needs mounting higher every day, typhoid prevention becomes a vital issue. Deliberate waste of money is to be condemned at any time, but just now it is a crime against the national well-being.

Every typhoid case that is prevented means an average saving of seven hundred dollars. Every typhoid death that is prevented means an average saving of more than four thousand dollars.

"Prevent typhoid and help finance the war!" should be Ohio's slogan during the present summer.

California's Record in Lowering Typhoid Rate

It would be difficult to find better statistical proof of the proposition that typhoid fever is preventable than that which is provided by a comparison of typhoid death rates for the past decade in Ohio and California. Starting from approximately the same level, both these states have decreased their typhoid mortality. California's decrease has been so much more rapid than Ohio's, however, that the Pacific Coast commonwealth's rate is now only half that of this state.

This notable record is the result of a determined anti-typhoid campaign inaugurated by the California health authorities in 1915. Prior to 1915 about the same degree of typhoid reduction had been accomplished in California as has been achieved in Ohio. The rate had been brought from 32.2 per 100,000 population in 1906 to 13.6 in 1914.

In October, 1915, the California state board of health, deciding that this reduction was insufficient, declared its intention to bring the typhoid death rate down to 9.6 in 1918. As a matter of fact, when the 1915 statistics were compiled, it was found that that year's rate had dropped to 9.7 — almost the desired record for 1918 — and the 1916 figure proved to be 7.1.

Encouraged by this achievement, the board early in 1917 expressed the hope that the 1918 rate would be as low as 5.0 per 100,000. Statistics for 1917 showed no improvement for that year, but the preventive campaign is continuing vigorously.

And what has Ohio been doing during this period? Here are the figures, by years, with those for California given for the sake of comparison (state vital statistics reports are the source of both sets of figures):

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
Ohio	(Not available)	(Not available)	(Not available)	26.5	27.9	22.4	18.4	24.0	18.1	14.1	15.0	13.1
California	32.2	26.3	24.4	20.0	19.9	17.8	17.6	16.3	13.6	9.7	7.1	7.4

In other words, Ohio has been making improvements which are by no means negligible, but that she can easily accomplish still more is shown by California's record. California, with a rate two years ago approximately the same as our present rate, has in that brief two-year period achieved nearly a fifty-percent reduction.

Why should not Ohio have a typhoid death rate of 7.0 per 100,000 by 1920?

* * *

What a State Must Do to Prevent Typhoid Fever

How did California do it? This is the question which logically follows such a discussion of the Golden State's work in typhoid prevention as appears elsewhere in these columns. We let the

California state board of health answer this inquiry. Here are the means by which it says a typhoid fever death rate can be reduced:

- (1) Prevention of sewage pollution of public and private water supplies;
- (2) Insurance of safe milk supplies through the pasteurization and inspection provisions of the state milk law;
- (3) Investigation of outbreaks of typhoid fever, determining and removing their sources;
- (4) Manufacture and free distribution to physicians of typhoid vaccine;
- (5) Inspection of hotels, eating places, summer resorts and surroundings, correcting insanitary conditions that may be present;
- (6) Enforcement of laws and of the board's regulations for the prevention of typhoid fever;
- (7) Education in the prevention of typhoid fever.

One other important point is referred to in these words:

In order to secure these results, it is necessary that the California state board of health shall have the active support of health officers, physicians and citizens. All of the common rules of sanitation, particularly as related to sewage disposal and water and milk supplies, must be rigidly observed. The regulations of the board for the prevention of typhoid fever should be carefully followed by physicians and health officers.

In other words, everybody must work together. The local health official is just as important in his field as is the State Department of Health in its field, and much of the success of the campaign, especially in rural districts, depends ultimately upon the willingness of the individual citizen to follow authoritative advice.

* * *

Carrier Danger Is Best Avoided by Vaccination

The carrier as a source of typhoid infection must not be overlooked in a campaign to reduce the typhoid rate. He is the most insidiously dangerous of all means of transmitting the disease, and is probably the most difficult to regulate.

It is said that about four percent of the persons who have typhoid remain carriers after apparent recovery. If this ratio prevailed in Ohio last year, the twelve months produced some thirty or forty carriers who may now be scattering the germs of their disease among unsuspecting residents of the state.

The usual methods of typhoid prevention can reach the carrier only indirectly. As we reduce our typhoid rate by purifying water, killing flies and extending our sewer systems, we will, if the law of averages is working properly, automatically reduce the number of carriers. Even

one carrier, however, as bitter experience has demonstrated many times, can do a great deal of damage if left undisturbed for a short period.

Strict regulations for the physical examination of all persons whose occupations necessitate their handling food products will lessen the danger from carriers. Pasteurization of milk will have a similar tendency. With the complexities of modern business organization, however, food may be infected at a distance from the point of consumption, and the health officials of a given community may therefore not be in a position to ward off the danger to their constituents.

Inasmuch as this is the case, vaccination against typhoid fever becomes of increased importance when one considers the carrier's part in transmitting the disease. It is the most dependable method of protection against this lurking danger.

Vaccination is especially important to those who travel or who are in the habit of eating food prepared by unknown persons who may or may not be typhoid carriers. Anybody is likely to profit by anti-typhoid vaccination, but these two classes are constantly exposed to the carrier danger and are "taking a chance" as long as they are without this protection.

* * *

Figures Show That Typhoid Is Not Properly Reported Typhoid fever is not being thoroughly reported in Ohio, despite the legal requirement that a notification of every case shall be sent to the State Department of Health. That fact is apparent when one compares the case reports with the death totals for corresponding years.

Students of the typhoid problem estimate that the proportion of deaths to all cases is from one in fifteen to one in ten. In other words, Ohio in 1917, with 682 typhoid deaths, must have had a case total of from seven thousand to ten thousand. Investigation of the case records, however, shows only 3,127 reported.

A great duty rests with the physicians of the state in a campaign for the prevention of typhoid. They must report cases promptly and completely. Unless the health authorities know where cases are occurring they are handicapped in their task of preventing the disease.

With one-half to two-thirds of the existing cases unreported, preventive work must be more or less of a hit-or-miss affair. It cannot be so organized that the greatest effort is expended where the greatest need exists.

The physician who fails to report typhoid cases is guilty of neglect which may result in the infection of persons who might otherwise have been protected.

Protect Vacationists for Sake of Community

Vacation trips are a fruitful source of summer typhoid. Persons going to summer resorts are often exposed to typhoid infection from impure water or other imperfections in sanitary safeguards.

The vacationist rarely knows of the danger to which he exposes himself in going to a given resort. He has selected the place because the fishing and bathing were good or because the climate was pleasant, rather than because he found it to be a place where sanitary regulations were effectively administered and his health thereby protected.

This being the case, the vacationist should receive some attention from his health officer at home before he leaves on his trip to lakes, mountains or shore. Effort should by all means be devoted to guarding him against typhoid fever, since it is the greatest of the disease dangers he will face and the one most easily to be warded off.

Anti-typhoid vaccination is the surest means of protection for the vacationist. He is going into unfamiliar surroundings, where he must accept conditions which exist and are beyond his control. If the water is contaminated, he may not be so situated that he can boil all he uses. He will probably not know from where his milk supply comes. He will be unable to solve the fly problem if he finds it to exist.

If he is vaccinated before leaving, however, he need worry but little about these matters. He can brave any dangers and be reasonably sure of coming home free from typhoid infection.

Urging anti-typhoid vaccination, however, is not the whole of the health officer's duty toward vacationists. Many persons will fail to heed this advice, however strongly it be put. For their benefit, educational measures must also be emphasized. They must be taught wherein lies the danger of the summer resort, and should be urged to inquire in advance into the sanitary aspects of the place they intend to visit. The need for knowing the facts about sewage disposal, water supply and milk supply and for avoiding places where any of these appears to be dangerous must be made apparent to them.

Protect the vacationist, not for his own sake alone, but also to prevent him from bringing typhoid back to his home community and endangering his neighbors.

* * *

"Community Health Is a Purchasable Commodity"

Does it pay to have a full-time health officer? This is the question asked by the *Monthly Bulletin* of the California state board of health, and answered with the following array of facts:

"Palo Alto, California, with a population of 6,000, has a full-time health officer. The Palo Alto death rate is about one-half that for

the state. Since 1911, in this city, there have been no deaths of infants under two years of age from diarrhea and enteritis. During the same period the deaths of no less than 5,528 infants under two years of age, in California, were due to this cause. The health department of Palo Alto cost \$3,310 last year — 56 cents per capita. At the beginning of 1918 there were three known cases of tuberculosis in Palo Alto, There was not a single case of diphtheria there during 1917."

Would it be worth 56 cents per inhabitant to your community to have such a record to present to the world?

* * *

Baby Needs Protection Against Summer Diarrhea

Public health workers who are interested in the campaign to lower infant mortality must busy themselves this summer in efforts to lower the appalling yearly total of deaths from diarrhea, the greatest scourge of babyhood.

More babies healthy at birth die of diarrhea than from any other single cause. This situation can readily be improved, largely through educating mothers in proper care of their babies.

The baby should be breast-fed and must be protected from the heat, if it is to be kept out of grave danger during the summer months. These two facts must be constantly and emphatically kept before the notice of mothers.

The chances the breast-fed baby has of escaping summer diarrhea are infinitely better than those of the bottle-fed infant. For the protection, so far as possible, however, of the many infants who will be bottle-fed, for one reason or another, despite this warning, rules for bottle-feeding must be expounded. Proper modification of milk under the physician's direction, use of milk of known purity and thorough sterilization of bottles and nipples are the principal considerations under this head. The ice supply must also be watched.

Protection from the heat is largely a matter of clothing. Most mothers put too much clothing on their babies. They must be educated up to a recognition of the fact that light clothing is perfectly safe and desirable. Frequent bathing, avoidance of the direct sun and provision of a plentiful supply of fresh air must also be urged.

Finally, mothers must be taught that if the baby develops diarrhea despite these warnings, immediate consultation with a physician is essential. "Proper treatment at the beginning of a diarrheal attack," a recent discussion of the subject has said, "is worth more than many days' treatment later. Competent physicians, not gossiping neighbors, know what is best for the baby"

Typhoid Fever in Ohio, 1909-1917: Some Statistical Observations

First Diagram —

A glance at the first of the accompanying diagrams, showing the monthly distribution of typhoid fever, makes quite evident how appropriate at this time of year is any consideration of the prevalence and control of this disease. Note the first five months' rather uneventful course of the lower curve in the diagram, representing the average number of deaths during the past nine years of accurate record in Ohio. June marks the beginning of the increase in the toll of deaths and sickness, which is doubled in the latter half of the year in spite of the totals for the first half being entirely too high. An average of 58 deaths a month prevailed from January to July and 112 from July to the end of the year. That the maximum toll is exacted in September and October is quickly noted.

The upper curve, representing the monthly average of reported cases, while quite striking in showing seasonal prevalence, fails to show the true number of cases. If health officers had successfully secured reports of all cases, then, on as conservative an estimate as eleven percent of cases dying, the diagram would have been drawn with proportions to represent for the year, in round numbers, 11,000 cases, rather than the 5,000 actually indicated. In other words, the lower curve, the death curve, is accurate but the upper curve, the reported case curve, tells only half the tale. The other half must be

told before the death curve is materially lowered. It is not true that dead men tell no tales — dead health officers tell no tales.

Second Diagram —

Figured on the basis of the conservative eleven-percent case fatality rate, the probable number of cases of sickness from typhoid fever each year is shown in the second diagram for the nine-year period 1909-1917, in order to make amends for the misrepresentation from incomplete reports of cases. Reported cases prior to 1912 are not indicated because of absurdly inaccurate returns from health officers.

What happened to reports in 1917? Is the war affecting reports of cases of notifiable diseases? Unfortunately the war is, in two marked ways, if not in more. During 1917 there occurred a larger number of changes and vacancies in the ranks of the health officers than for at least four years previously. Physicians called to service have in many cases been succeeded as health officers by laymen uneducated as to the value and necessity of reports, in addition to the appointment of health officers having been made, throughout 1917, with frequent delays and consequent lapses in reports. In many instances of failure to report, the increased postal rates have been used as an excuse by health officers, physicians and others required to report.

Space has been left in this sec-

ond diagram to fill in the record for 1918. Health officers should keep the diagram in an accessible place as a reminder that the 1918 record should be filled in with more credit to themselves and more profit to the state. It should be noted that the deaths for 1916 were as much below the 1,000 line as above in 1909 and 1910. The block for

1918 should be still lower; the deaths should be below the 682 registered for 1917, rate 13.1 per 100,000 population, as recorded in Table 1,—the lowest rate on record for Ohio.

Third Diagram —

The excessive toll exacted by typhoid fever within the draft age

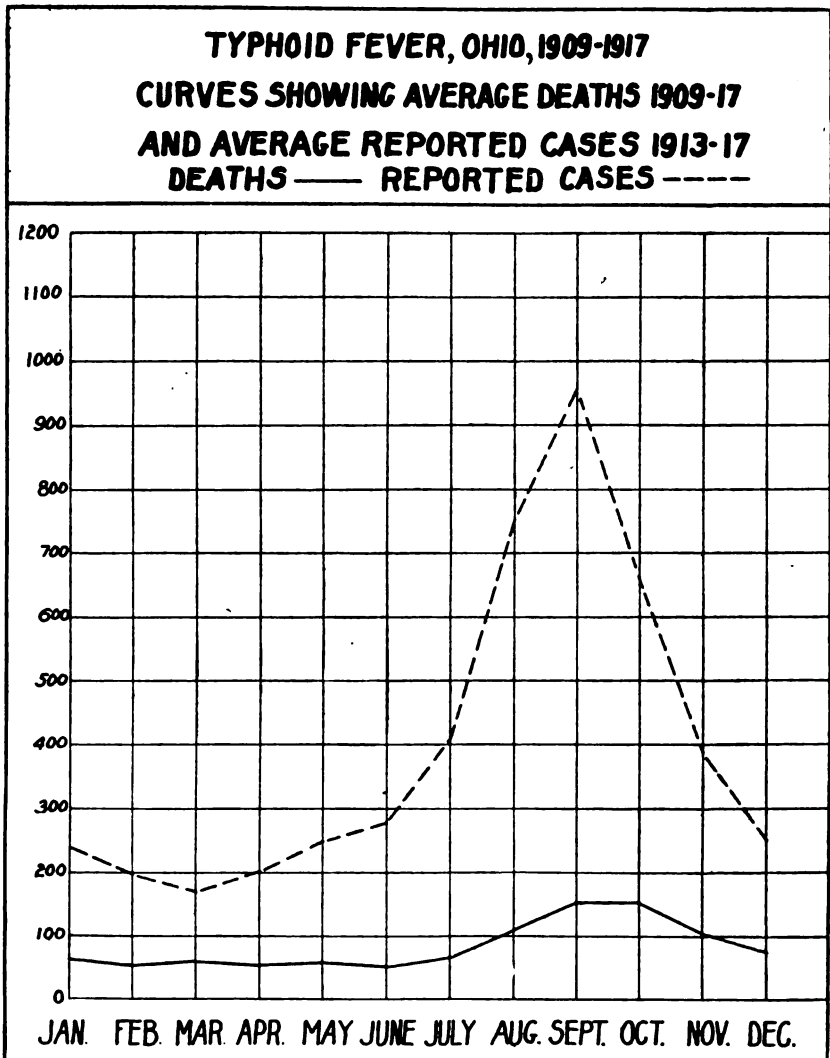


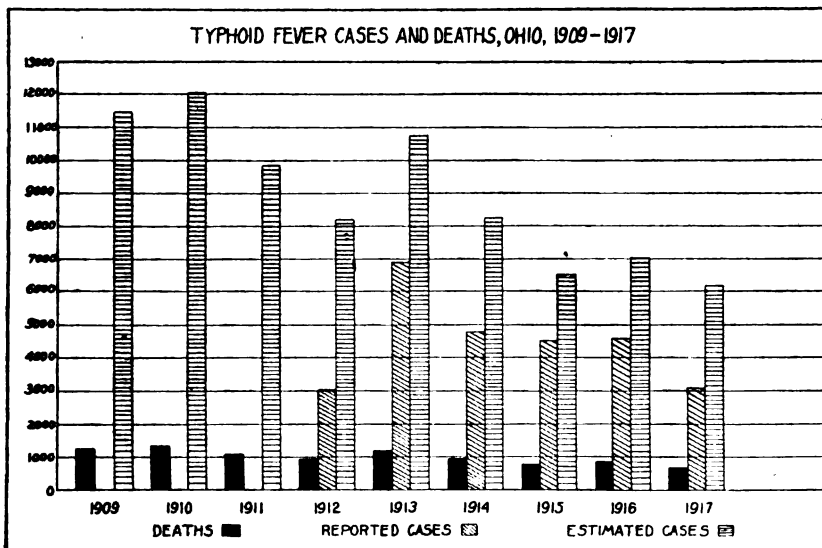
TABLE 1. TYPHOID FEVER, OHIO, 1909-1917: DEATHS AND DEATH RATES PER 100,000 POPULATION FOR STATE, CITIES, VILLAGES AND TOWNSHIPS.

Year.	State.		Cities.		Villages.		Townships.	
	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.
1909	1,261	26.5	598	23.4	207	32.4	456	27.5
1910	1,327	27.8	654	26.4	189	29.1	484	28.7
1911	1,084	22.4	573	22.6	167	25.2	344	20.8
1912	902	18.4	515	19.8	111	16.5	276	16.9
1913	1,191	23.9	657	24.7	152	22.2	382	23.6
1914	912	18.1	558	20.6	110	15.8	244	15.2
1915	718	14.1	434	15.7	86	12.1	198	12.3
1916	772	15.0	433	15.3	91	11.3	248	15.5
1917	682	13.1	391	13.6	101	13.9	190	12.0

and the more productive age periods is readily seen from the third diagram. It is unnecessary to comment upon our patriotic duty in preventing these losses.

In connection with this diagram, Table 4 should be noted for sex and age distribution of 2,000 reported cases tabulated in 1917 and

Table 3 for the cost of typhoid fever in Ohio. Arguing from Table 4, if 6,000 cases of sickness are caused by typhoid fever this year in Ohio, as last year, at least 1,400 men of military age and at ages most productive in industry will be incapacitated for an average period of four weeks at the



minimum, a loss of 33,600 working days or 268,800 working hours, with an eight-hour day.

From Table 2 showing death rates by counties, the counties permitting the greatest losses can be located. Large cities to a great extent, determine the county rates. The death rates for 1917 in Table 5 for cities with population exceeding 30,000 at the 1910 census indicate that this statement may be proved. Non-resident deaths have not been subtracted from the city

figures in Table 5 and consequently, with hospital facilities considered, the rates in the cities would tend to be elevated above the county rate, although the low or high city rate would, as stated, to a great extent determine the county rate.

The Tables —

From Table 1, the gradual decrease in the typhoid death rate in Ohio can be figured—a rate of 26.5 per 100,000 population in 1909 and 13.1, not quite half as great,

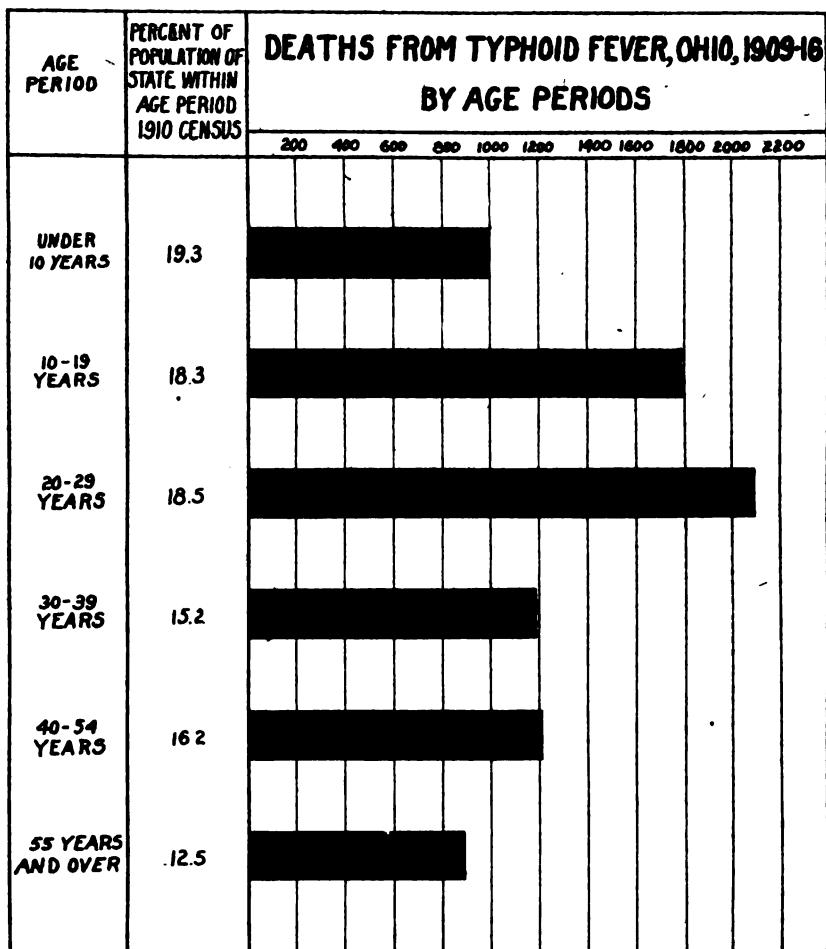


TABLE 2. TYPHOID FEVER, 1909-1917, BY COUNTIES OF OHIO; AVERAGE DEATH RATES, TWO YEARS, 1909-1910, FIVE YEARS, 1911-1915, AND TWO YEARS, 1916-1917.

Counties.	1909-1910 2-Year Average.	1911-1915 5-Year Average.	1916-1917 2-Year Average.	Counties.	1909-1910 2-Year Average.	1911-1915 5-Year Average.	1916-1917 2-Year Average.
State	27.1	19.4	14.0	Licking	17.1	22.3	18.8
Adams	36.4	19.4	20.3	Logan	30.0	15.3	11.6
Allen	29.2	22.3	12.8	Lorain	25.9	22.0	11.0
Ashland	34.9	18.7	10.3	Lucas	39.2	30.1	14.8
Ashtabula	37.0	16.4	14.6	Madison	30.2	22.9	15.1
Athens	36.8	18.3	16.7	Mahoning	39.0	28.3	28.2
Auglaize	16.0	11.5	8.0	Marion	24.8	20.8	26.6
Belmont	30.1	28.1	17.6	Medina	17.2	13.2	16.1
Brown	32.2	23.4	18.1	Meigs	51.0	26.6	25.4
Butler	22.2	15.1	8.8	Mercer	24.1	16.7	9.0
Carroll	19.0	10.1	15.8	Miami	20.0	20.2	11.8
Champaign	17.0	13.7	17.2	Monroe	28.9	20.6	8.2
Clark	12.9	18.4	19.6	Montgomery	20.0	12.0	15.6
Clermont	37.2	19.0	13.5	Morgan	27.9	22.4	3.1
Clinton	21.1	16.0	6.3	Morrow	38.6	16.6	11.9
Columbiana	49.8	39.2	22.5	Muskingum	41.4	46.4	27.2
Coshocton	33.2	27.7	11.3	Noble	29.5	15.1	13.4
Crawford	36.7	12.4	19.0	Ottawa	11.1	19.6	8.9
Cuyahoga	15.0	9.7	6.1	Paulding	50.6	21.9	8.8
Darke	30.3	13.0	25.4	Perry	26.6	17.6	13.2
Defiance	38.8	18.0	4.1	Pickaway	32.5	19.1	22.9
Delaware	53.4	16.8	18.0	Pike	22.2	26.7	44.5
Erie	24.8	19.7	6.4	Portage	34.7	26.7	19.3
Fairfield	15.4	12.2	4.7	Preble	27.2	10.9	10.4
Fayette	43.7	12.9	27.5	Putnam	38.4	28.0	10.0
Franklin	19.3	14.5	10.9	Richland	43.1	16.9	7.9
Fulton	27.2	14.8	8.1	Ross	59.9	31.4	21.2
Gallia	23.3	31.1	15.5	Sandusky	22.7	32.7	22.4
Geauga	13.7	9.5	3.4	Scioto	48.6	64.9	37.2
Greene	23.5	22.2	6.7	Seneca	17.7	13.1	11.5
Guernsey	29.4	22.5	18.5	Shelby	30.4	24.3	14.2
Hamilton	13.7	8.3	3.4	Stark	22.9	15.1	13.6
Hancock	26.4	18.0	7.9	Summit	28.4	26.7	27.4
Hardin	31.2	27.6	21.3	Trumbull	62.6	22.2	26.3
Harrison	31.5	23.2	23.6	Tuscarawas	39.5	13.4	12.6
Henry	29.9	14.3	8.0	Union	38.8	19.2	13.7
Highland	41.8	21.6	19.1	Van Wert	29.2	15.8	17.1
Hocking	29.6	11.9	29.6	Vinton	61.1	24.4	7.6
Holmes	19.5	12.3	5.6	Warren	34.7	12.3	20.4
Huron	22.0	16.1	5.6	Washington	35.2	24.2	12.1
Jackson	48.7	24.0	17.7	Wayne	25.0	14.7	14.4
Jefferson	41.4	44.3	27.6	Williams	19.8	19.0	11.8
Knox	26.6	14.2	12.5	Wood	35.6	26.0	11.9
Lake	39.3	24.1	16.8	Wyandot	33.7	25.0	9.6
Lawrence	45.6	57.2	60.7				

TABLE 3. THE COST OF TYPHOID FEVER IN OHIO—DEATHS, SICKNESS, MONEY.

Years.	Deaths.	Sickness.	Money (Con- servative).	Money (Probable).
1909	1,261	11,464	\$4,933,546	\$9,457,500
1910	1,327	12,064	5,419,070	9,952,500
1911	1,084	9,854	4,426,731	8,130,000
1912	902	8,200	3,683,497	6,765,000
1913	1,191	10,827	4,863,686	8,932,500
1914	912	8,290	3,724,334	6,840,000
1915	718	6,527	3,343,794	5,385,000
1916	772	7,017	3,673,176	5,790,000
1917	682	6,200	3,244,956	5,115,000
Total	8,849	80,443	\$37,403,790	\$66,367,500
Average	983	8,938	\$4,155,977	\$7,374,167

in 1917. In noting the village and township rates, account should be taken of the excess in the cities of persons at the age periods at which the disease is most common and fatal.

Table 2 shows twenty-four counties with average rates in 1916-17 of 10 or less per 100,000, forty-three with rates between 10 and 20, 18 between 20 and 30; one, Scioto County, with a rate of 37.2; one,

Pike County, with a rate of 44.5 and one, Lawrence County, with a rate of 60.7, highest of all county rates. In six counties—Champaign, Clark, Lawrence, Licking, Marion and Pike—increases are shown in rates during the nine-year period.

Referring to Table 5, in the thirty largest cities, representing 41 percent of the state's population, there occurred 35 percent of the

TABLE 4. SEX AND AGE DISTRIBUTION IN 2,000 REPORTED CASES OF TYPHOID FEVER, TABULATED IN 1917.

Age.	Male.	Female.	Total.	Age.	Male.	Female.	Total.
Under 5 years.....	60	61	121	45-49	32	26	58
5-9	165	180	345	50-54	25	17	42
10-14	160	157	317	55-59	13	9	22
15-19	145	127	272	60-64	6	5	11
20-24	162	135	297	65-69	6	4	10
25-29	130	83	213	70-74	1	1	2
30-34	72	48	120				
35-39	55	47	102	All ages	1,072	928	2,000
40-44	40	28	68				

TABLE 5. TYPHOID FEVER, 1917, OHIO—CITIES WITH POPULATION EXCEEDING 30,000, 1910 CENSUS: DEATHS AND REPORTED CASES, WITH RATES PER 100,000 POPULATION AND FATALITY RATE PER 100 REPORTED CASES.

City.	Deaths.	Reported Cases.	Rates per 100,000 Population.		Fatality Rate per 100 Reported Cases.
			Deaths.	Reported Cases.	
Total	237	973	11.2	46.0	24.3
Akron	32	75	36.2	84.9	42.7
Canton	11	29	17.1	45.0	38.0
Cincinnati	16	87	3.9	21.0	18.4
Cleveland	52	207	7.5	30.0	25.0
Columbus	17	86	7.7	39.1	19.9
Dayton	19	76	14.7	58.9	26.3
Hamilton	4	14	9.7	33.9	28.6
Lima	3	20	8.3	55.4	15.0
Lorain	3	7	7.8	18.3	43.0
Springfield	9	68	17.2	130.0	13.2
Toledo	19	148	9.7	75.8	13.0
Youngstown	35	62	31.1	55.2	56.5
Zanesville	17	94	54.3	300.1	18.0

deaths and 31 percent of the reported cases in the state in 1917, giving an average death rate for these cities of 11.2. Seven of the cities had a rate below 10 per 100,000, the rate at least which a pure water supply and a sewer system should afford. Three of the cities—Akron, Youngstown and Zanesville—had rates greatly exceeding 20 per 100,000, indicating in general unsatisfactory water and sewerage. For the five largest cities—Cleveland, Cincinnati, Columbus, Toledo and Dayton—the average rate was 7.5, the same as Cleveland's rate for the year, Cincinnati's low rate particularly making up for the higher rates of Columbus, Toledo and Dayton. In these five largest cities, embracing 31 percent of the state's population, there occurred only 18 per-

cent, or 123, of the 682 deaths caused by typhoid in the state in 1917.

In Table 3, two estimates of the financial losses from typhoid fever are given. The conservative estimate, exceeding \$37,000,000 for the nine years, is based on an average illness of four weeks, a case fatality of eleven percent, low cost of medical attendance, low wages and the valuation of wages and lives lost on the actual number in specified age groups dying each year. The probable cost of \$66,000,000 is based on Johnson's estimated sum total vital capital loss from one typhoid fever death of \$7,500. Johnson's figure has been reached conservatively enough to indicate that the lower estimates in Table 3 are gross under-statements. Taking however, an aver-

age of the two estimates the cost of typhoid fever in Ohio for the past nine years, figures \$51,885,645,—an annual loss of \$5,765,072, speaking merely from a mercenary standpoint.

Complete Case Reports —

The purpose of these diagrams and tables is so evident that a plea for reports of all cases of typhoid fever should be unnecessary. One cannot fail to recognize that prompt case reports will give to health authorities and community that

warning which should at once start action, individually and collectively, for control and prevention. The responsibility for reporting cases rests too lightly on the shoulders of many physicians and health officers. It is unfortunate that at least the financial loss from unreported cases cannot be levied upon the physician or other person who fails to report or upon the health officer who neglects to take necessary action upon the receipt of report.

S. K.

Water Purification As a Factor in the Elimination of Urban Typhoid Fever

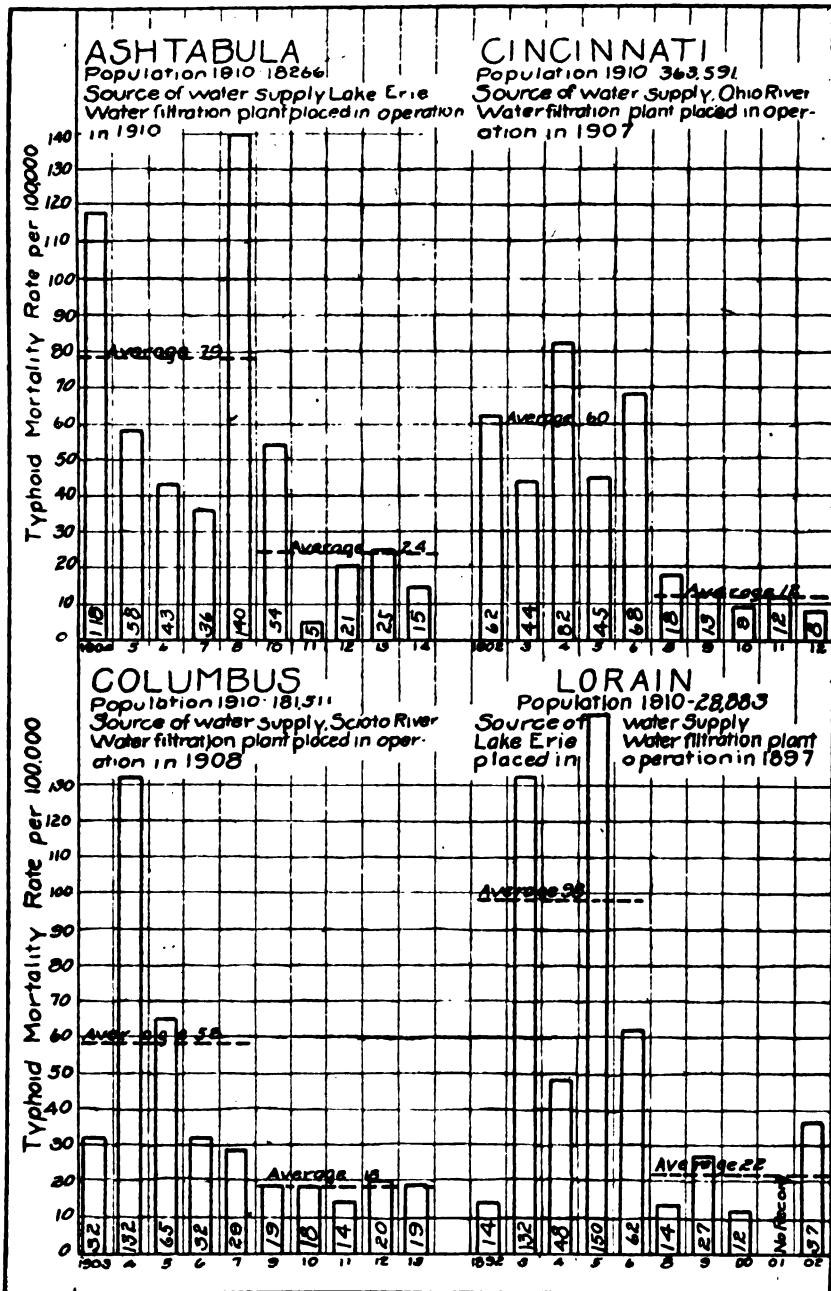
IT is a well established fact that the use of contaminated water is the most important single cause of urban typhoid fever. Serious outbreaks of the disease frequently occur and abnormally high typhoid fever death rates obtain in cities and villages which maintain impure public water supplies secured from streams and other surface sources and furnished to the consumers without treatment. The use by individuals of water from contaminated private wells is also a serious factor, and in those communities where such wells are generally used typhoid fever is prevalent with more or less regularity.

Obviously, the first essential in elimination of water-borne typhoid fever is the provision of a pure public water supply. It is pertinent to observe that the purity

of the water supply cannot be relative, but must be absolute, to accomplish elimination of water-borne typhoid fever. Moreover, such an improvement must be accompanied by the universal use of the public water supply throughout the community and by the complete elimination of all other sources, including private wells which are contaminated, or the safety of which is questionable. If this is accomplished, all typhoid resulting from the use of drinking water will be eliminated and the residual typhoid will be that due to other causes.

It has been stated¹ that in the northern part of the United States the purification of the public water supply of a city will result in the reduction of the annual typhoid death rate to a figure usually under 20 per 100,000. Another writer

¹ A. W. Freeman, M. D., *The Present Status of Our Knowledge Regarding the Transmission of Typhoid Fever.*



states² that if all of the urban population of the United States were supplied with filtered water, or water of equal purity, the average urban typhoid fever death rate would be 14 per 100,000. Whatever the residual figure may be, it is evident that it represents the typhoid fever due to causes other than infected water supplies if complete use of a perfectly pure water is secured.

In a table compiled by Mr. George A. Johnson, showing the reduction in typhoid fever death rates following the filtration of public water supplies, data for twenty American cities are used. It is shown that the weighted average typhoid fever death rate for all of the cities for a period of five years

prior to filtration of their public water supplies was 60 per 100,000, and that the weighted average rate for a similar period following filtration was 21, showing a reduction of 65 percent. These figures appear to indicate that an average residual rate of 20 per 100,000 is about what may be expected with the general use of purified public water supplies.

In Ohio the experience resulting from the purification of public water supplies has been much the same as has been recorded in other places. In the accompanying table (No. 1), a comparison of typhoid fever death rates is presented before and after filtration of the water supplies of seven Ohio cities. These cities have been selected for

TABLE 1. EFFECT ON TYPHOID DEATH RATE CAUSED BY FILTRATION OF IMPURE WATER SUPPLIES OF OHIO CITIES.

City.	Population 1910.	Source of Water Supply.	Date of Installation of Filtration Plant.	Typhoid Fever Death Rates Per 100,000.	
				Average for Five Years Prior to Filtration.	Average for Five Years Subsequent to Filtration.
Ashtabula	18,266	Lake Erie	1909	79	24
Cincinnati	363,591	Ohio River	1907	60	12
Columbus	181,511	Scioto River	1908	58	18
Lorain	28,883	Lake Erie	1897	98 ³	22
Sandusky	19,989	Sandusky Bay	1909	70	35
Toledo	168,497	Maumee River	1910	41	32
Youngstown	79,066	Mahoning River	1905	108	40
Weighted averages				60	21

²George A. Johnson, "The Typhoid Toll", *Journal American Water Works Association*, June, 1916.

³For four years — 1893 to 1896, inclusive.

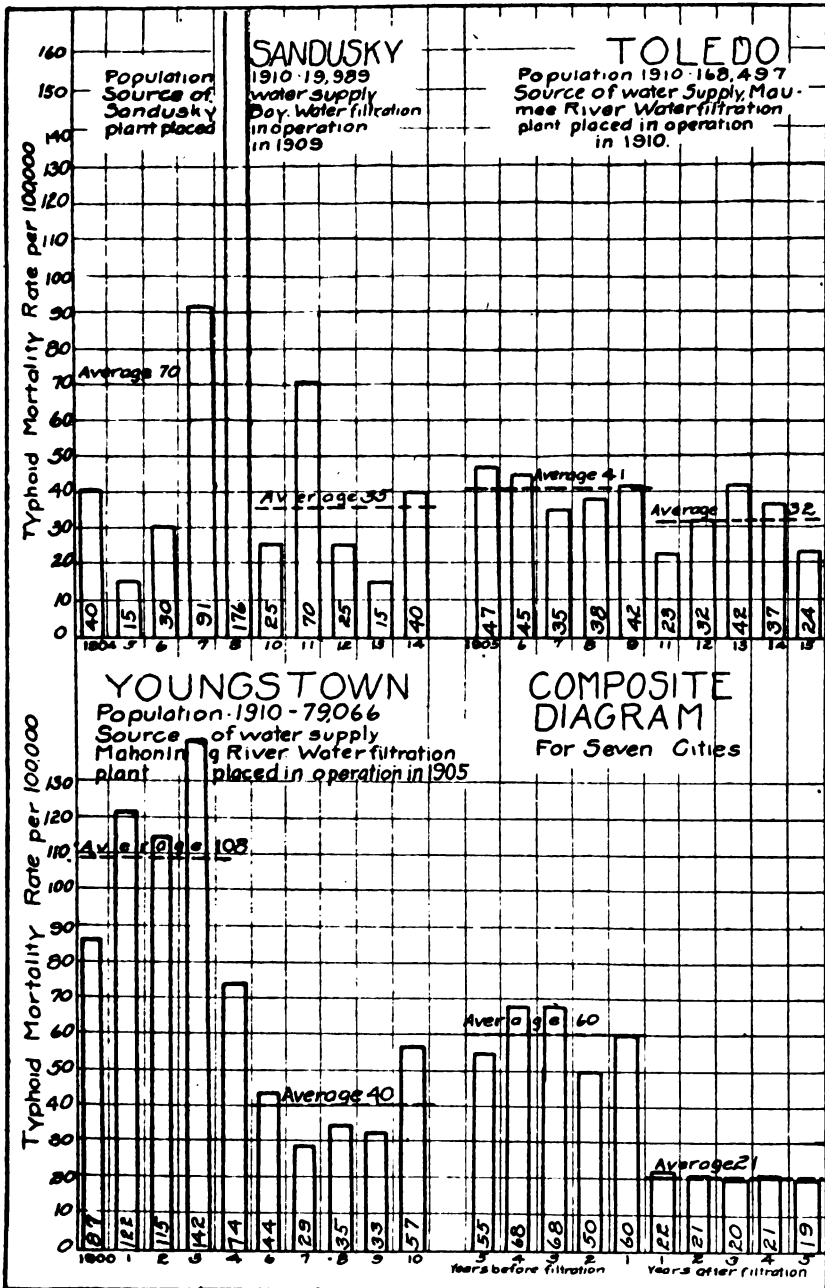


TABLE 2. EFFECT ON TYPHOID DEATH RATE CAUSED BY FILTRATION OF IMPURE WATER SUPPLIES OF OHIO CITIES.

City.	Population 1910.	Source of Water Supply.	Date of Beginning Operation of Filtration Plant.	Typhoid Fever Death Rates per 100,000.			
				Before Filtration.		After Filtration.	
				Number of Years.	Average Rate.	Number of Years.	Average Rate.
Alliance	15,083	Mahoning River	1913	5	36	3	20
Bellaire	12,946	Ohio River	1915	5	36	1	14
Portsmouth	23,481	Ohio River	1914	5	96	2	43
Steubenville	22,391	Ohio River	1915	5	97	1	33
Niles	8,361	Mahoning River	1912	4	99	4	48

the reason that they furnish complete records. The accompanying diagrams show graphically the effect upon the typhoid fever death rates due to the introduction of filtration of the water supplies. The data for Ashtabula, Cincinnati and Columbus are obvious and need no explanation. It will be noted that the rate for Lorain in 1892 was only 14. At this time the city obtained untreated water from Lake Erie, as had been the case for the previous eight years, during which time the typhoid rates were not abnormal. In 1892 the city installed a system of sanitary sewers, discharging directly into the Black River, which enters Lake Erie not far from the old water supply intake. The effect upon the water supply is shown by the great increase in the typhoid fever death rate which occurred the following year and continued until 1897, when filtration of the water supply was provided.

The reduction in typhoid fever for Sandusky is not as marked as in the cases previously mentioned and it is believed that this was the result of improper construction of the water purification plant, which necessitated the use of raw water from time to time to meet the consumption. An entire new plant was constructed in 1914 and has been in satisfactory operation since. It is gratifying to note that during 1915 and 1916 the rates were maintained at 10 per 100,000.

The Toledo diagram fails to exhibit any marked reduction in typhoid fever rates. The city health department attributes this to the widespread use of private wells throughout the city in preference to the public water supply. This demonstrates the necessity for universal use of a public water supply after its purification has been effected.

The Youngstown diagram shows a very marked reduction following

filtration, but it will be noted that the residual typhoid is much higher than should be the case. An investigation of typhoid fever at Youngstown in 1906 led to the conclusion that the use of private wells was the most important single cause of the disease.

In Table 2 results for additional Ohio cities are presented. The data for these cities are not complete and therefore were not included in Table 1. They demonstrate, however, a marked reduction in the typhoid fever death rates following filtration.

The temporary treatment of the public water supplies of Cleveland and Zanesville, by the use of chlorination, has also had an effect in lowering the typhoid fever death rates. At Cleveland, for five years, 1906 to 1910, the average rate was 16. Chlorination of the water supply was undertaken in 1911. For five years, 1912 to 1916, following chlorination, the average rate has been 8. At Zanesville the average for five years prior to 1913 was 75. In that year chlorination of the water supply was started. The average for three years since 1913 has been 31.

These examples of the beneficial effects realized from the improvement of public water supplies are not abnormal cases, and are only representative of the general experience of cities formerly having contaminated water supplies, which have been replaced by pure supplies. The evidence is so conclusive that it may now be predicted with certainty that a city having an impure water supply and consequently a high typhoid fever death rate, may reduce its rate to an important extent by providing a pure public water supply and by encouraging its general use. The

resulting saving in life alone will fully repay the city for the investment required. W. H. D.

STEUBENVILLE'S SURVEY

A recent public health survey of the city of Steubenville disclosed the following facts:

That the city water supply is good, but that about one thousand persons use private water supplies, some of which are probably unsafe.

That a system of city supervision of the milk supply is lacking, and that sanitary conditions on dairy farms inspected were good in some respects and bad in others.

That insanitary conditions were present in numerous food-handling establishments, over which the city exercises no supervision.

That sewage is discharged without treatment into the Ohio River and that several sections of the city are without sewer facilities.

That the lack of adequate garbage disposal provisions and of any regulations for stable construction encourage fly-breeding.

That the staff of the city health department consists of a full-time health officer, who is without medical or public health training; a full-time plumbing inspector and a part-time clerk.

That the department's 1917 expenditures amounted to \$6,344.45, more than half of which was for quarantine and fumigation, mostly in cases of smallpox.

The report urged the employment of a technically trained health officer at a salary of \$3,000 to \$3,500, the establishment of a laboratory and of a dairy and food inspection system and the installation of a public health nursing service.

The Health Officer's Responsibility in the Prevention of Typhoid Fever

VERY few health officers realize their responsibility in the prevention of typhoid fever. This is due in part to the fact that typhoid fever has not been declared to be a quarantinable disease and also to the attitude of a great part of the medical profession who have failed or refused to report cases of the disease to the health officer. As evidence of this we have the reports of cases as returned to the State Department of Health and the certificates of deaths returned to the Bureau of Vital Statistics. During 1917 there were reported 3,127 cases and 682 deaths from typhoid fever, making a case fatality rate of nearly 22 per cent. The probable number of cases of this disease in Ohio last year was in the neighborhood of 10,000, and this would indicate that less than one-third of all cases were reported.

Typhoid fever is now and has been for many years a reportable disease; just as much so as small-pox, diphtheria and other diseases which must be quarantined. A physician who fails to report is liable to prosecution and on conviction to pay a fine. A second offense is punishable by fine and also imprisonment. We have no record of an Ohio physician being prosecuted for failing to report typhoid fever but it is self-evident from the figures given that there should have been many prosecutions and it is the fault of health officers if this has not been done. It is obvious that a health officer cannot

perform his duty in the prevention of a disease unless he knows that the disease exists and where it exists. A few prosecutions would teach a wholesome lesson and bring about a greater respect for the law and the rights of others.

While it is not required or necessary that a case of typhoid fever be quarantined it is necessary that the source of infection be discovered and this is the function of the health officer. The individual physician has a concern in caring for the patient and protecting other members of the family from infection from the patient but the health officer cannot expect that this physician is going to make the thorough investigation that will disclose the source of infection.

There is no health officer in Ohio who was selected solely because of his ability in discovering the source of infection in communicable disease, and from experience we know that a great many health officers when appointed did not know even the fundamentals of such investigations, but this does not mean that every man who accepts the office of health officer is not legally and morally obligated to learn this essential part of his work.

It is the duty of the state to protect the health of the citizens of the state. To forward this work, the legal obligation has been laid upon each municipality and township to establish a board of health or some agency to act in lieu of a board of health and powers and duties have been conferred upon or

required of each such board or agent. In these powers, which in reality are duties, is found the authority to "make such orders and regulations as it (the board of health) deems necessary for its own government, for the public health, the prevention or restriction of disease, and the prevention, abatement or suppression of nuisances."

The authority to make regulations to prevent and restrict the spread of disease gives a board of health the opportunity to institute measures to control any disease that can be communicated from one person to another or from an animal to a human being. These regulations do not define or limit the obligations of the board of health but prescribe the general rules and methods that are to be enforced and followed by the board of health and its employes in pursuance of this obligation. Relief from the obligation can only be complete when everything has been done that can be done to prevent the spread of disease and to render aid where, by positive injunction of law, assistance must be given to the sick and to those shut in because of having been exposed.

The primary responsibility in the prevention of typhoid fever must rest with the physician. If he recognizes the nature of the disease and does not report, or if he suspects the case to be typhoid and does not use every facility at hand to assist him in making a diagnosis, or if he does not give directions for procedures to prevent further infection, he must assume full responsibility for his failure to act. Due allowance must be made be-

cause of the difficulty in making diagnosis in obscure cases but the physician must learn, what so many seemingly have not learned, that a communicable disease is not an individual or family problem but is a matter of great public concern, and that in all matters that directly affect the public the rights and wishes of the individual must give way to the rights of the public.

The secondary and a greater responsibility rests with the health authorities. If reports of cases are not made by physicians, legal measures must be used to secure compliance with the law. When a report is made an immediate investigation must follow to discover the source of infection. Not one but all possible sources of infection must receive attention. Sending a sample of water to the state laboratory for examination does not relieve the health officer of the necessity of investigating the milk supply, possible contact with a previous case, fly infection, etc. It does not relieve him of his duty to see that the excreta of the patient are thoroughly disinfected before being thrown into a privy, buried or otherwise disposed of. Each case of typhoid is the possible beginning of an epidemic and the health officer who, by his failure to act, permits the occurrence of secondary cases is assuming a responsibility that some day, perhaps, will place him in a more than unenviable position in his community.

J. E. B.

"Many diseases utilize the mucous membrane of the nose and throat and gain a foothold in the body." — Flexner.

Prevention of Typhoid Fever in Small Towns and Villages

THE prevention of typhoid fever in small communities is so easy that it seems surprising that the disease should still be permitted to prevail in practically all of the towns and villages in the state of Ohio. If a town or village wishes to rid itself of typhoid fever, the procedure to be followed is very simple. The one thing necessary is to prevent the dissemination of human filth in the community. The prevalence of typhoid fever in a community is measured by the amount of human filth which is permitted to be scattered about and to pollute food and drink. To prevent typhoid fever we have only to prevent this soiling of food and drink with human filth. The measures necessary to do this are simple, practical, and in line with ordinary decency and cleanliness.

The first step to be taken by a community in preventing typhoid, is to furnish a pure water supply to every inhabitant. Where there is a public water supply, and the number of public water supplies in small communities is constantly increasing, it may with but few exceptions be depended upon to be pure. The state law forbids the installation of a public water supply except with the approval of the State Department of Health, and this approval will not be given except for a supply, the purity of which is amply safeguarded.

Where there is no public supply the problem is more difficult, since it involves the safeguarding of a

large number of private supplies. Even here, however, the problem is not very difficult, for almost any well may be made safe by proper construction and by preventing the gross pollution of the soil about it.

When a town has provided a proper supply of water for every inhabitant, it has taken one of the two great steps in typhoid prevention. The second necessary step is that of providing for the proper disposal of human waste within the community so that none of it may be scattered about by flies or other mechanical means and thus reach food and drink. Next to polluted water, and frequently even exceeding that in importance, the most important factor in the spread of typhoid fever in a small community is the insanitary outdoor privy. As has been stated so often, the only source of typhoid infection is in human filth. These collections of human filth constitute, therefore, the greatest danger to the health of the community.

The privy found on the premises in the average small Ohio community consists of a more or less well-built structure surmounting some sort of pit or vault. If this vault is not water-tight, there is always danger that the filth will seep through the ground, sometimes even for considerable distances and may reach and pollute some well. Even if the toilet is provided with a water-tight vault, however, the contents are usually not screened against flies.

Every one knows that flies feed on and breed in filth of all kinds. They therefore constantly carry about on their feet and in their bodies practically all of the different germs which are found in filth. Where a village has a number of privies, the contents of which are exposed to flies, the flies in that village will be constantly soiled with human filth and some of these flies will carry on their feet the germs of typhoid fever. These germs reach the mouths of well persons, usually by soiling bread or other food, or by being drowned in milk, or sometimes actually by direct deposit on the lips.

The insanitary privy, therefore, constitutes a very great source of typhoid infection, particularly in a climate where the summers are as long and as warm as they are in Ohio. If a community is to prevent typhoid therefore, it must require that every toilet be provided with a water-tight vault so that the ground water may not be polluted, and must be so constructed that flies may not reach the contents.

The sanitation of the privies of a community is not nearly so difficult or expensive a matter as it sounds. For an average cost of a few dollars, almost any toilet can be provided with a water-tight receptacle and so protected that flies cannot reach its contents. If a system of privies is to be expected to remain in satisfactory condition, after once being made sanitary, it is absolutely necessary that some regular provision be made for cleaning the privies and for removing the contents a sufficient distance from the town and there disposing of them in a sanitary manner. Where there is no regular scavenger service of

this kind, certain people will invariably permit privies to overflow and the contents to be spread about and scattered by flies and other means of transmission. To keep the system sanitary, therefore, we must have a regular scavenger system. This should provide for cleaning at frequent intervals, depending on the size of the receptacle used, but certainly not less than twice a month in summer and once a month in winter.

After safeguarding water supplies and filth disposal, a small community has done all that it can do to provide against wholesale and continuous typhoid infection. The danger next in importance is that of infection by milk and occasionally by food served at some public entertainment. Milk infection is particularly difficult to prevent in small towns, because there are usually numerous small milk dealers, none of them sufficiently large to provide proper equipment for handling milk in a safe manner. The only protection in such a case is to be sure that one's milk comes from a person who is of cleanly habits and who conducts his dairy in a cleanly manner. This is not always easy to do, but if the inhabitants of a town will buy milk only from those dealers who keep themselves and their dairies clean, the danger will be much minimized, and all milk dealers will soon recognize the necessity for cleanliness in handling their product.

Even should it not be possible to obtain milk about whose quality one is absolutely sure, the home pasteurization of milk is not difficult or troublesome. This consists of heating the milk sufficiently high to kill any living germs which may be contained in it. It can be

accomplished in any home without impairing in any way the taste or the nutritive value of the milk.

The danger of contracting typhoid from food which has been soiled in its preparation by a "typhoid carrier" cannot be absolutely avoided. Against this danger, which is after all not very great, typhoid vaccine is the only preventive.

For a small community, therefore, to rid itself of typhoid fever it is necessary, first of all, that the council or other governing body pass an ordinance for the sanitation of all toilets and provide for a regular scavenger system. The passage and enforcement of this ordinance is the most important step in the prevention of typhoid fever. After this is done every

citizen must protect his own water supply against accidental contamination, by seeing that the well is properly curbed and provided with a water-tight top and a suitable pump. These things, as can readily be seen, are not expensive or difficult and can be done by any community in Ohio. The adoption of these small precautions would result in preventing at least a half and probably three-fourths of the amount of typhoid fever now prevailing in the small communities in the state, and will have no small effect on the general prevalence of the disease in the state at large.

Persons interested in the details of the questions discussed above should write the State Department of Health for further information.

A. W. F.

Typhoid Prevention on Farms

THE prevention of typhoid fever on farms depends upon the same simple principles as does the prevention of typhoid fever in cities, towns or villages. The one and only thing necessary is to prevent human filth from being scattered around so that it may reach the mouths of human beings, either directly or through pollution of food and drink.

The first essential is the provision of a sanitary privy, and the use of it at all times by all members of the family. A sanitary privy is a privy which has some sort of a receptacle, whether tub, bucket or vault, which is water-tight. If the receptacle of the privy is not water-tight the filth may seep into the

ground and pollute the well, or may be scattered about, get on the feet of man or of domestic animals, and in some way reach the food of those living on the farm. The receptacle must not only be water-tight; it must be so arranged and constructed that flies cannot get to the filth contained in it. This is a matter of common-sense construction, and there are countless ways in which it may be accomplished. The necessary things are the protection of the filth so that none of it may by any means be scattered about the place or may seep into the soil, and the arrangement of the privy so that it may easily and conveniently be cleaned. If the farmer will get these two facts clearly in mind, he can ar-

range his privy in any way most convenient to him.

It must be understood, of course, that there is no particular use in building a sanitary privy unless every member of the family uses it regularly. Filth deposited on the ground behind the barn or in the fence corner is just as dangerous as that deposited in an insanitary privy. If there is objection on the part of the male members of the family to using the house privy a separate privy should be constructed for their use, located somewhere about the barn. If a stool is deposited in the fields or anywhere on the farm other than in a sanitary privy it should be immediately covered with earth.

Next in importance to the privy is the well or spring. Here again the thing to be done is simple in the extreme. All that is necessary is so to protect the well or spring that no surface water can get into it, and that no filth or trash can be washed or carried into it.

A well should be located as far as possible from the privy. It should be provided with a good curb of brick or cement, going several feet into the ground and rising several feet above it. The well platform should be absolutely water-tight. The pump should sit on a shoulder raised a couple of inches above the platform, so that the joint between the pump and the platform may not admit water. The well should, wherever possible, have a water-tight casing extending down to the water-bearing strata. For this purpose terra cotta sewer pipe, with the joints laid in cement, is almost ideal. The purposes of the well construction are to prevent any water from getting into the well,

except that which has been filtered by passing through many feet of soil and which comes from the water-bearing stratum underground, and to keep all filth of any character from getting into the well. It is after all only a matter of common sense.

The protection of a spring is also simple. The spring should be walled about with a water-tight coping to keep surface water from the slope above it from washing in. The spring should be covered, and wherever possible be provided with a pipe or spout, so that the bucket may be set under the spout and not have to be dipped into the spring. The bucket is not always clean on the outside.

When the water supply and the privy are properly cared for on the farm, the farmer has done about all that can be done to protect the family against typhoid originating on the place. The rest is a matter of ordinary cleanliness; washing the hands before eating or before handling food, washing the hands before milking, and above all washing the hands well immediately after attending to the needs of nature.

The principles outlined in this brief article may seem so elementary as to be unworthy of notice. One need only recall, however, that they are violated on practically all Ohio farms today, and that as a result typhoid fever prevails as extensively in the rural districts as in the crowded cities. If the farmers of Ohio would attend to these simple matters it would save thousands of cases of typhoid every year.

Any farmer desiring more or detailed information on this subject should write the State Department of Health at Columbus.

The Laboratory and Typhoid Fever

TYPHOID fever was one of the first of human infectious diseases to yield the secret of its parasitic cause and control to laboratory investigation. The value of the laboratory in controlling typhoid fever has been conclusively demonstrated. It is useful in the following ways:

1. In assisting the practitioner in making a diagnosis.
2. In ascertaining the source of infection.
3. In determining when the convalescent is no longer a source of danger to others.
4. In making and distributing vaccines.

The clinical symptoms of typhoid fever are not always sharply defined. Physicians experience great difficulty in diagnosing the disease, especially in the earlier stages, and often confuse it with malaria, tuberculosis and some other diseases. In treating typhoid an early diagnosis is very important and can be assured only through laboratory methods.

Probably the best method of diagnosis in the early stage of the disease is by blood culture. The taking of the blood is neither difficult nor annoying to the patient. This method consists of withdrawing two or three cubic centimeters of the patient's blood from the median basilic vein by means of a syringe and injecting it immediately into twenty-five cubic centimeters of plain bouillon. Great care should be taken to prevent contamination. Needle and syringe should be carefully sterilized. After twenty-four hours in the incu-

bator the inoculated bouillon is examined for the presence of a motile bacillus, which if found is further tested for typhoid by cultural and agglutination methods. Typhoid bacilli appear in the blood early in the disease. After the first week the percentage of positive findings decreases rapidly.

A more widely used and almost as reliable method of laboratory diagnosis is the Gruber-Widal reaction. This makes use of the fact that in the blood of patients suffering from typhoid, certain antibodies are produced which are called agglutinins. These agglutinins possess the power of rendering the organisms motionless and of grouping them into clusters, or clumps as they are called. The technic consists in mixing the blood serum of the patient with a known culture of typhoid in a dilution of at least one to forty. A dilution below one to forty may give false readings, as the blood of healthy individuals often gives agglutination in low dilutions. After an hour the action, if it is to take place, is completed. Dried blood may be used, only a drop on a slide being necessary, but it is preferable to submit several drops in a small tube so that an accurate dilution of the serum may be used. In case the specimens are to be mailed most laboratories recommend the use of dried blood. This reaction is specific; that is, with certain exceptions, agglutination occurs only if the patient is suffering from typhoid, and not if from some other disease. The exceptions to this statement are that the reaction oc-

curs occasionally in cases of paratyphoid, especially if the blood has not been diluted sufficiently and in the cases of persons who have received preventive typhoid inoculation or who have recently had typhoid.

In interpreting results, therefore, it is important for the physician to know whether the patient has had typhoid previously or has been vaccinated against typhoid. After an attack of typhoid, agglutinins persist in the blood for about two years, so that an examination made within this period is of little value as a diagnostic measure. The same statement holds true in cases of vaccinated persons. Agglutinins are not as a rule detected in the blood until the fifth day and often not until the tenth. Consequently, the result of an examination made before the fifth or seventh day has very little significance.

This phenomenon may be observed either under the microscope or in a test tube with the naked eye. The former is the method used in most laboratories.

Another way in which the laboratory has proved its value in combating typhoid is in ascertaining the source of infection. It has been well established that the typhoid bacillus is transmitted directly through water, milk and other foods, such as uncooked vegetables and oysters, through flies and through the so-called carriers. It is almost impossible to detect the typhoid organism itself in water. However, if there is typhoid present the water is also almost certainly contaminated with excreta. As all excreta contain members of the colon group the detection of this organism in water indicates pollution and there is strong probability that such water

may also contain the typhoid bacillus. Many epidemics have been definitely traced to a polluted water supply. The pollution is usually near by and there is a direct transfer of fresh infection. Samples of all water which is used for drinking purposes and regarding which there is any suspicion should be sent to the laboratory to determine the presence of pollution, and the water should be considered unsafe for use if samples are found to be contaminated. No other single measure in reducing typhoid fever in cities has met with such success as substituting a safe water for a polluted supply.

Many outbreaks of typhoid fever have been due to milk infected either directly with typhoid excreta or by polluted water used in rinsing cans or other utensils. In many instances the presence of typhoid infection in milk has been traced to "typhoid carriers" employed in the handling of the product.

Milk is a favorable medium for the growth of typhoid organisms, which multiply rapidly in it. It is with great difficulty that typhoid is isolated from milk and the milk responsible for an epidemic is seldom available for analysis. However, the source of infection in milk epidemics may be determined indirectly through laboratory methods.

Some epidemics have been traced to the eating of raw oysters. It was discovered that these oysters had been planted in polluted streams, a method which some oyster men practice to fatten their product. Oysters suspected of coming from such streams should be examined for the presence of the colon bacillus, which indicates such contamination.

The fact that persons who have

suffered from an infectious disease may continue to harbor the organisms of the disease after apparent recovery from it has long been recognized. Investigations have shown that about four percent of the recovered cases of typhoid remain "carriers" for varying lengths of time, some even for years. So-called healthy carriers give off virulent organisms in their feces and urine in enormous numbers. These carriers are a source of the greatest danger. Many cases of typhoid have been traced to cooks in restaurants and private families. Some cooks have become notorious on account of the trail of typhoid they have left behind them. Fortunately the presence of typhoid in excreta can be demonstrated by laboratory methods. The excreta of all typhoid convalescents engaged in the handling of food stuffs should be submitted for bacteriological examination and proved to be free from typhoid infection before such persons are allowed to resume their former occupations. As many carriers give off typhoid organisms only intermittently, two or more examinations should be required. Specimens should be examined within a few hours after they are taken, or where this is impossible specimens of stools should be sent to the laboratory in twenty percent glycerine and saline.

The method of detecting the organism in excreta consists in plating the material on special differential media, and isolating suspicious colonies. These are subsequently confirmed by cultural and agglutinin tests. Where a number of people are under suspicion of being carriers, specimens of the blood are usually taken and submitted for the Widal reaction. As

carriers generally give a positive Widal test it greatly facilitates matters to examine the excreta of those giving the positive reaction first, in order to detect the carriers. Even after long and heroic treatment many individuals still continue to have the organisms and offer a most perplexing problem to health authorities.

One of the important means in preventing the spread of typhoid fever is the use of vaccines. In 1896 Pfeiffer and Kolle tried the effect of giving human beings small injections of typhoid bacilli. It was discovered that a few doses had the effect of producing agglutinins in the blood of these individuals, which indicated that they were probably protected against typhoid fever. At the same time Wright began injecting British soldiers who volunteered for the purpose. Today all the soldiers of the world are given protective inoculations of typhoid vaccine. The present world war has demonstrated without question the value of typhoid vaccination. During the Franco-Prussian war sixty percent of all deaths were due to typhoid. Today in both the German and Allied armies typhoid is extremely rare. During our own Spanish-American War there were seven times as many deaths from typhoid as from bullets. One-fifth of the enlisted men contracted the disease. In 1912 vaccination was made compulsory in the United States Army, with the result that there developed only twenty-seven cases that year. In the following year this number was reduced to four. Today, although we have over two million men under arms, the weekly reports from the surgeon general's office show no cases of typhoid. This disappearance of

typhoid from the army cannot be attributed only to improvements in sanitation, as outside the army camps the men are subject to the same conditions as in civil life, where typhoid still prevails extensively.

Several methods of making and administering typhoid vaccine are in use. At the present time the use of a single strain is generally employed, three injections being given. In the United States Army this method has produced superior results. Some workers use several strains in combination in order to insure protection against the possibility of several types existing. Others also consider it advisable to combine the typhoid with the paratyphoid strains in order to protect against paratyphoid fever, which is very similar to typhoid. Whatever method is used, the inoculation produces in the individual usually only a discomfort which lasts but a few days. Some persons are entirely unaffected. Serious or permanent results probably never follow the inoculation.

The laboratories of the Ohio State Department of Health manufacture typhoid vaccine and distribute it to physicians free of charge upon request. This vaccine is made according to the methods of the United States Hygienic Laboratory. Only one strain is employed, care being taken to secure one that produces strong agglutinins. This property is regarded as most essential. The vaccine consists of an emulsion of the typhoid bacillus killed by heat. The emulsion is so diluted that the doses consist of about five hundred million and one billion organisms respectively. Each dose is placed in an ampoule and preserved with tricresol. The finished product is

tested by animal inoculations and cultural methods for the presence of other living organisms, especially tetanus.

Typhoid fever is still a disease of the greatest significance, ranking fourth among the diseases causing death and disability. There are encouraging prospects, however, that this foe of human life can be entirely abolished, and certainly the laboratory will play no mean part in accomplishing this end.

R. V. S.

Whooping Cough Strikes Heavily

The dangers of whooping cough to young children were again brought to notice in two news items which appeared within a few days of each other last month. One told of the death of three children from the disease within two days in Tiffin, the second told how the disease had taken two children from each of two Columbus households in two successive days and the third told of still another death in Tiffin.

Lima Regulates Barber-shops

Sanitary methods in barber-shops are required under regulations recently passed by the Lima board of health. The regulations were drawn up by the barbers themselves, acting through their union. Regular inspections are to be made of all shops. A permit from the board of health must be obtained by anyone desiring to operate a barber-shop. All instruments must be sterilized after each time used and no powder-puffs or sponges may be used.

Typhoid Fever As a Contagious Disease

WHEN one studies the reports of typhoid fever which come to the State Department of Health one is struck by the number of cases which occur in families in which there have previously been cases of the disease. The usual history of these cases is that of a first case, contracted perhaps away from home, which is followed after a couple of weeks by another case, evidently contracted from the first case, and frequently even by other cases, until sometimes the whole family is stricken one after another.

These secondary cases are practically always unnecessary and easily preventable. Typhoid fever is not contagious like measles or scarlet fever, in that one may contract it by simple bodily contact with a previous case. It is contracted only when some of the germs from the body of the patient are actually introduced into the mouth of a well person. This sort of infection may be prevented by care on the part of those who have the nursing of the case.

To prevent the spread of typhoid from a case the first care should be to disinfect the discharges from the bowels and bladder of the case. These discharges are the principal source of the infection and constitute the greatest danger. Even if the discharges are carefully disinfected, however, there is danger that the hands of the attendant may have become soiled. The nurse, or other person attending

the case should, therefore, disinfect her hands by washing with soap and water, soaking them in disinfectant and then rinsing in clean water every time she performs any service for the patient, and always before leaving the sickroom to go to any other part of the house.

The dishes from the sickroom should always be placed in a separate pan and boiled before being handled. They should be entirely separate from those used by others of the household.

The bed and body linen of the patient should likewise be put into a wash boiler, covered with water and boiled before being handled by anyone outside the sickroom.

In view of the fact that these precautions require great care and vigilance for success, it is well for those who are called on to nurse a case of typhoid, or who live in a house where there is a case, to protect themselves still further by submitting to typhoid vaccination. The process is not dangerous and causes only slight disturbance in most cases, and it affords very great protection against the disease.

The carrying out of the precautions outlined above, by those who are immediately in contact with cases of typhoid fever would save several hundreds of cases in Ohio every year.

Good health at home is as important a factor in the war as good health in the field.

Four of Five Largest Ohio Cities Have Typhoid Death Rates Under 10 Per 100,000 for 1917

Of the five Ohio cities with more than 100,000 inhabitants, according to the 1910 census, four had typhoid death rates of less than 10 per 100,000 population in 1917. This information is gained from the sixth annual report of the *Journal of the American Medical Association* on "Typhoid in the Large Cities of the United States."¹ The four cities with low rates are: Cincinnati, with a rate of 4.1; Cleveland, 7.1; Columbus, 7.6, and Toledo, 9.7. Dayton's rate was 13.7.

The following table, comprising statistics taken from the *Journal's* tables for the country at large, shows the changes in the typhoid rates in recent years in the five Ohio cities:

City.	DEATHS FROM TYPHOID PER 100,000 POPULATION.			
	1917.	1916.	Average 1911-15.	Average 1906-10.
Cincinnati	4.1	3.4	7.8	30.1
Cleveland	7.1	5.3	10.0	15.7
Columbus	7.6	13.4	15.8	40.0
Toledo	9.7	22.9	31.4	37.5
Dayton	13.7	14.7	14.8	22.5

Especially noteworthy was Toledo's great improvement concerning which the *Journal* says: "Toledo, for the first time, shows a substantial reduction in the typhoid rate. It is no longer in the fourth rank (cities with a typhoid rate of over 20), whereas in 1916 it was the only Northern city in that unenviable position." The 1916 rate in Toledo was 22.9. The city's average rate for the period 1911-15 was 31.4, and for 1906-10 was 37.5.

The *Journal's* comment on Dayton is as follows: "Dayton seems to have a relatively high rate for a Northern city, and does not show as marked improvement in the past two years as do some other cities in this group [of cities from 100,000 to 125,000 population]. A careful study of typhoid in Dayton in 1917 was made by the health commissioner, the study appar-

ently indicating that the lack of sewer connections has a good deal to do with the occurrence of typhoid in that town."

The cities given "first rank"—those with rates under 5.0, among which Cincinnati is the only Ohio city included, are (with their rates):

Chicago	1.7
Oakland, Calif.	1.9
St. Paul	2.4
Tacoma, Wash.	2.5
Boston	2.9
Rochester, N. Y.	3.1
Jersey City	3.2
Newark, N. J.	3.5
Camden, N. J.	3.7
New York	4.0
Cincinnati	4.1
Cambridge, Mass.	4.4
Worcester, Mass.	4.8
San Francisco	4.9

Cincinnati therefore stands eleventh among the sixty cities covered by the survey. In its

¹ *Journal of the American Medical Association*, LXX, 11 (March 16, 1918).

particular group in the classification followed by the survey—cities of from 300,000 to 500,000 population—Cincinnati stands second only to Newark, N. J.

Cleveland is fifth among the nine cities with more than 500,000 population. Lower rates than Cleveland's are reported in Chicago, Boston, New York and Philadelphia. Cleveland was ahead of Philadelphia in 1916. Regarding the slight rise which is seen in Cleveland's 1917 rate, the *Journal* remarks: "The chlorination of the Cleveland water continues to prove a source of trouble and complaint. Early in the year the chlorine dosage was materially reduced against the protest of the city health authorities. It is possible that the slightly increased typhoid rate * * * may be connected with this action."²

Columbus is ranked seventh among the ten cities of from 200,000 to 300,000 population. Cities with better records, in this group, are: St. Paul, Rochester, Jersey City, Denver, Providence and

Portland, Ore. Columbus' rank in the group was ninth in 1916.

Toledo rose from eleventh place in 1916 to ninth place in 1917 among the fourteen cities in the 125,000-200,000 group. It was outranked last year by Oakland, Worcester, Scranton, Syracuse, Omaha, Richmond, Spokane and New Haven.

Dayton, the only Ohio city with a rate of more than 10.0, was fifth from the bottom of the cities from 100,000 to 125,000 in 1917. Salt Lake City was the only non-Southern city in this group with a rate higher than Dayton's. Dayton was sixth from the bottom of this group in 1916, but her 1917 rate, it will be noted by reference to the table, showed a slight improvement over the 1916, even though her relative position dropped. In the entire list of sixty cities, the only cities outside the South with higher rates than Dayton's were Baltimore, Fall River, Detroit and Salt Lake City. Seven Southern cities also had lower rates than Dayton.

Baby Death Total Little Reduced in February

OHIO failed again in February to achieve a death total of children under five years old which would compare favorably with the goal set for Children's Year. The deaths numbered 1,201 in February. To "save" 4,510 babies this year, as compared with the 1916 losses, the monthly average of these deaths must be kept down to 902. The January total was 1,232.

In these two months, therefore,

Ohio lost 2,433 children, whereas 1,804 is the maximum two months' average possible under the baby-saving plans which the state is endeavoring to carry out. Stated in terms of "saving," the situation is that the state saved only 123 babies in a period in which the Children's Year program demands the saving of 752.

It was hoped, as mentioned in last month's OHIO PUBLIC HEALTH JOURNAL, to have statistics for both

² NOTE—Cleveland's new filtration plant has been put into operation within the past few weeks.—Ed. O. P. H. J.

February and March ready in time to present in this number detailed figures, by cities and counties, covering the entire three months' period before the official opening of Children's Year. Since the March records are not yet complete, however, it has been necessary to postpone this statement until next month. Detailed figures on the month of February will also

be withheld until they can be presented with the March statistics.

A hasty study of the February death records presents some striking information on deaths from communicable diseases among Ohio children. These figures are summarized in the following table, which gives the totals of deaths from various causes by age groups:

Disease.	1 to 6 mo.	6 mo. to 1 yr.	1 to 3 yrs.	3 to 5 yrs.	Total under 5 yrs.
Whooping cough	10	13	22	6	51
Diphtheria	2	1	17	16	36
Typhoid fever .....	..	1	1	..	2
Smallpox	1	..	..	..	1
Meningitis	2	1	3	2	8
Measles	4	1	8	2	15
Scarlet fever .....	..	..	2	2	4
Syphilis	12	2	2	..	16
Tuberculosis	2	2	4	1	9
Pneumonia	*	*	*	*	340

* Pneumonia not classified by ages.

Public Health Nursing Service

Report for March, 1918

	Home Visits.	Other Visits.	Number Patients Under Care.	Number Nurses Employed.
<i>Population 100,000 and over.</i>				
Cincinnati (Anti-Tuberculosis League) ..	1,015	.....	1,184	7
Columbus (Anti-Tuberculosis League) ..	697	182	971	3
Columbus (V. N. A.)	2,121	.....	598	11
Toledo	5,537	289	4,478	20
Youngstown	2,189	8	421	10
<i>Population 25,000 to 100,000.</i>				
Canton	652	.....	76	3
Lima	708	16	118	3
Springfield (City Health Department) ..	225	24	165	1
Zanesville (Welfare Organization)	100	40	70	1
Zanesville (Fed'n of Women's Clubs) ..	89	42	29	1
<i>Population 8,000 to 25,000.</i>				
Ashtabula	95	145	90	1
Bellaire	75	46	.....	1

	<i>Home Visits.</i>	<i>Other Visits.</i>	<i>Number Patients Under Care.</i>	<i>Number Nurses Employed.</i>
Bellefontaine	163	55	53	1
Bucyrus	120	17	22	1
Cambridge	213	75	42	2
Delaware	265	10	37	1
Elyria	98	30	31	1
Lancaster	141	23	39	1
Lorain	189	.....	30	1
Mansfield .....	.....	15	46	2
Marietta	90	26	27	1
Marion	150	7	51	1
Massillon	335	58	81	1
Piqua	76	53	28	1
Portsmouth	582	140	404	3
Xenia	86	63	18	1
<i>Population 5,000 to 8,000.</i>				
Ashland	90	47	11	1
Circleville	189	8	59	1
Greenville	210	4	19	1
Norwalk	57	67	.....	1
Ravenna	208	43	37	1
Sidney	151	95	37	1
Urbana	52	4	14	1
<i>Population 2,500 to 8,000.</i>				
Bryan	58	75	40	1
Cuyahoga Falls	65	87	.....	1
Greenfield	73	18	30	1
Shelby	188	17	50	1
<i>Counties.</i>				
Franklin (northern half)	29	20	33	1
Hamilton	62	17	193	1
Lake	48	36	21	1
Licking	40	54	28	1
Trumbull (part month)	24	43	130	1
Tuscarawas	49	139	56	1
Totals	17,604	2,138	9,867	97

The 9,867 patients under care were grouped as follows, according to the nature of their cases:

Communicable Diseases —

Tuberculosis	4,196
All others	123

Maternity —

Prenatal	193
Postnatal	210

Infants under two years of age (except eye)

2,876

Eye —

Infants under two years of age	36
All others	60

Other Diseases —

Medical	1,482
Surgical	633

Social Service

58

Total

9,867

DEPARTMENTAL REPORTS BY DIVISIONS

DIVISION OF COMMUNICABLE DISEASES

Reported Cases of Notifiable Diseases, April, 1918

Prevalence. With the exception of smallpox, April reports do not indicate any one notifiable disease markedly prevalent comparing with records for April during the last five years. The total of 10,526 reported cases gives a much lower reported case rate for the month this year than prevailed in April, 1917, or April, 1916 (Table I, 2,000, 2,302 and 3,763 per 1,000 population, all notifiable diseases, April, 1918, 1917 and 1916, respectively). There is a total reduction for the month of 3,049 cases from March figures. In order of greatest reported prevalence for April, the diseases list as follows, with totals given for March, including delinquent March reports:

<i>Disease.</i>	REPORTED CASES.	
	<i>April.</i>	<i>March.</i>
1. Measles	2,294	2,286
2. Measles, German	2,205	3,137
3. Smallpox	1,115	1,644
4. Mumps	1,023	1,420
5. Whooping cough	865	1,134
6. Scarlet fever	754	927
7. Tuberculosis	575	602
8. Pneumonia	540	475
9. Chickenpox	375	735
10. Diphtheria	358	585
11. Ophthalmia neonatorum	112	130
12. Typhoid fever	99	119
13. Gonorrhea	66	142

For no other one notifiable disease was a total of 50 cases or more recorded for April. The cities reported 5,394 cases, 51 percent of the state total, as compared with 48 percent recorded for cities in March and 56 percent in February.

Smallpox. The 1,115 reported cases of smallpox for April are 529 cases fewer than the number recorded for March, but almost three times the number in April, 1917, and five times the April, 1916, figure. From October 1, 1917, to the end of April, 8,695 cases have been reported, an average of 1,242 cases a month for the seven months of the present epidemic.

Typhoid Fever. The 99 cases recorded give a case rate for April of .019 per 1,000 compared with .037 and .034 for the same month during the two years past (Table I), and a reduction from .022 per 1,000 in March of this year. The cities reported 58 of the 99 cases as recorded in Table II. Ironton, with nine cases, reported more than any other one city, Cleveland following with eight, East Liverpool next with

six, Defiance, Sandusky and Zanesville recording four each, Chillicothe and Tiffin, three each, 41 cases in the eight cities, the remaining 17 cases in cities being distributed by ones and twos in 12 cities as tabulated in Table II.

The low figure for April would give greater satisfaction were it not certain that a number of cases are not being reported. A preliminary tabulation of death certificates for January and February gave a total of 81 deaths for the two months caused by typhoid fever. In the same two months only 220 cases were reported, a fatality rate so high that it must be inferred that physicians and health officers are disregarding the requirements as to reports. Health officers should take timely warning before the summer typhoid period and inaugurate another campaign for reports.

Meningitis, Cerebrospinal. The 37 reported cases of meningitis occurred as follows: Belmont Co., Richland Tp., one; Cuyahoga Co., Cleveland, 13; Erie Co., Sandusky, one; Franklin Co., Columbus, one; Hamilton Co., Cincinnati, 10; and Lake Co., Perry Tp.; Licking Co., Lima Tp.; Madison Co., Mt. Sterling; Montgomery Co., Jefferson Tp.; Ottawa Co., Port Clinton; Ross Co., Franklin Tp.; Scioto Co., Portsmouth, Sciotoville and Vernon Tp.; Trumbull Co., Warren, and Wood Co., Plain Tp., 1 case each.

Poliomyelitis. Columbus reported three of the nine cases of poliomyelitis recorded for April. Bloom Township, Fairfield County reported two cases and the remaining four cases were reported from Delphos, Portsmouth, Warren and Liberty Township, Knox County.

Case Reports. The spread of an unreported disease was never prevented. Health officers, however, are becoming more lax in securing prompt case reports on the cards supplied by the State Department of Health to every physician or other person required to submit reports. These case history reports are absolutely essential for effective public health work. So many newly appointed health officers are serving in the state today that certain allowance must be made until they become familiar with the aims and requirements of preventive work but little success will come to their work if in the very beginning the importance of securing complete and accurate case reports is not realized. Another word of warning. The State Department of Health can be of little assistance for early preventive measures if the case reports are not mailed promptly on Monday of each week by health officers to the department, that they may be quickly recorded and studied for any undue prevalence.

Summary Reports. Why delay sending your monthly report summary? The franked card should be received by the collaborating epidemiologist not later than the fifth of the succeeding month. Why not count correctly the cases reported to you for the month? There are many instances each month of health officers recording, for example, 15 cases of smallpox, when case cards received during the month total 18 with no duplicates.

The footnote to Table II carries the names of the cities delinquent in reporting by date of going to press. Usually the same cities are listed in the footnote, it will be noticed.

TABLE I.—REPORTED CASES OF NOTIFIABLE DISEASES, OHIO, APRIL, 1916-1918, WITH DISTRIBUTION FOR CITIES AND FOR VILLAGES AND TOWNSHIPS, APRIL, 1918, AND CASE RATES PER 1,000 POPULATION, APRIL, 1916-1918.

Notifiable Diseases.	April, 1918.			April, 1917.	April, 1916.	April Case Rates Per 1,000 Population.		
	Cities.	Villages and Townships.	Total.			1918.	1917.	1916.
All notifiable diseases.	5,394	5,132	10,526	11,992	19,397	2.000	2.302	3.763
Chickenpox	264	111	375	665	602	.072	.128	.117
Diphtheria	270	88	358	478	420	.068	.092	.081
Gonorrhea	38	28	66	181	146	.012	.035	.028
Measles	1,184	1,110	2,294	5,571	13,561	.436	1.070	2.631
Measles, German.....	495	1,710	2,205	590	224	.419	.113	.043
Meningitis, cerebro- spinal	29	8	37	150	17	.007	.029	.003
Mumps	296	727	1,023	468	401	.194	.090	.078
Ophthalmia neona- torum	96	16	112	125	119	.021	.024	.023
Pneumonia, acute lobar	395	145	540	399	515	.103	.077	.100
Poliomyelitis	6	3	9	12	6	.002	.002	.001
Scarlet fever.....	430	324	754	1,195	1,104	.143	.229	.214
Smallpox	647	468	1,115	422	220	.212	.081	.043
Syphilis	44	4	48	122	49	.009	.023	.010
Trachoma	6	3	9	40	15	.002	.008	.003
Tuberculosis	505	70	575	637	648	.109	.122	.126
Typhoid fever.....	58	41	99	192	174	.019	.037	.034
Whooping cough.....	625	240	865	682	1,158	.164	.131	.225
Other notifiable dis- eases	6	36	42	63	18	.008	.012	.003

TABLE II—REPORTED CASES OF TEN NOTIFIABLE DISEASES, WITH
TOTAL CASE RATE PER 1,000 POPULATION, BY
CITIES, APRIL, 1918.

[illegible]

TABLE II—REPORTED CASES OF TEN NOTIFIABLE DISEASES, WITH TOTAL CASE RATE PER 1,000 POPULATION, BY CITIES, APRIL, 1918—Continued.

City.	Total Case Rate Per 1,000 Population.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis Cere- brospinal.	Pneumonia Acute Lobar.	Polomyelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
Ashtabula	.720	16		1		1		5	5	4		
Athens	1.474	11		7		1		2				1
Barberton	1.387	19	1						17	1		
Bellaire	.630	10	3	1		1		1		2	2	
Bellefontaine	4.620	44	1	10		7			2			24
Bellevue	.489	3						1	1			2
Bowling Green	.187	1						1				
Bucyrus	1.272	12		6		2			4			
Cambridge	.284	4		2		2		8				
Canton	.420	28	2	5		7		8	5	1		
Chillicothe	5.418	86		53		1		22	4	2	3	1
Cincinnati	1.040	520	61	143	10			16	55	116	2	117
Circleville	.740	5		3				1		1		
Cleveland	1.052	1,057	86	216	13	239		38	123	180	8	154
Columbus	1.444	361	3	132	1		3	112	11	8		91
Conneaut	.642	6						4		1	1	
Coshocton	.164	2							2			
Dayton	.672	96	8	33		17		11	11	16		
Defiance	1.224	9				2			3		4	
Delaware	.600	6						1	5			
Delphos	2.562	14		1		10	1			2		
Dover	.262	2				2						
East Cleveland	1.725	25		3				2	5			15
East Liverpool	1.548	36	5	4		6		8	5	2	6	
Elyria	.400	8	3						3	2		
Findlay	9.380	140	3	181				1	2	3		
Fostoria	.450	5		3					1	1		
Fremont	2.673	27		12		1		2	6	1	1	4
Galion	.417	3							3			
Gallipolis*												
Greenville	.292	2				1		1				
Hamilton	1.232	56		12		2		1	38	3		
Ironton	1.050	15						2	4		9	
Jackson*												
Kenton*												
Lakewood	1.107	27	2			4		6	8	4		3
Lancaster	6.039	99	1	48		1		37	6	4		2
Lima	1.710	57	8	3				6	40			
Lorain	.625	25	2	2		5		2	7	2	1	4
Mansfield	1.290	30	4			5		1	1	2		17
Marietta	.134	2	2									
Marion*												
Martins Ferry	.291	3				1				1	1	
Massillon	.960	15	2	6				3	3	1		
Middletown	2.501	41		7		4			29			1
Mt. Vernon	.081	1						1				
Nelsonville	1.661	11				1		5	1			4
New Philadelphia	4.465	47	1	12		6		2	26			

TABLE II—REPORTED CASES OF TEN NOTIFIABLE DISEASES, WITH TOTAL CASE RATE PER 1,000 POPULATION, BY CITIES, APRIL, 1918—Concluded.

City.	Total Case Rate Per 1,000 Population.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis Cere- brospinal.	Pneumonia Acute Lobar.	Poliomyelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
Newark .....	.576	18	...	9	...	...	...	5	4	...	...	...
Niles .....	.660	6	1	...	...	...	...	1	...	2	2	...
Norwalk* .....	...	...	...	...	...	...	...	...	...	...	...	...
Norwood .....	.779	19	2	8	...	...	...	2	1	3	...	3
Painesville* .....	...	...	...	...	...	...	...	...	...	...	...	...
Piqua	1.794	26	1	2	...	5	...	8	1	3	...	6
Portsmouth	2.607	79	1	13	1	4	1	52	4	1	...	...
Ravenna .....	.624	4	...	2	...	...	...	1	1	...	...	...
St. Bernard .....	.632	4	...	...	...	...	...	2	1	1	...	...
St. Marys .....	.168	1	1	...	...	...	...	...	...	...	...	...
Salem .....	.990	10	...	5	...	...	...	5	...	...	...	...
Sandusky .....	.931	19	1	2	1	5	...	3	2	1	4	...
Sidney	2.312	17	...	7	...	...	...	1	4	2	...	3
Springfield	1.159	61	...	10	...	7	...	2	2	18	...	22
Steubenville .....	.665	19	1	2	...	4	...	2	4	5	1	...
Tiffin	5.624	74	...	...	...	...	...	...	...	1	3	70
Toledo* .....	.830	166	13	42	...	6	...	21	18	54	2	10
Troy* .....	...	...	...	...	...	...	...	...	...	...	...	...
Urbana	6.552	56	...	46	...	8	...	...	...	2	...	...
Van Wert	1.419	11	1	...	...	...	...	1	9	...	...	...
Wapakoneta .....	.153	1	...	...	...	...	...	...	1	...	...	...
Warren	1.110	15	2	...	1	2	1	...	3	4	...	2
Washington C. H. ..	.351	3	...	...	...	...	...	...	3	...	...	...
Wellston	1.015	7	3	1	...	...	...	...	3	...	...	...
Wellsville	1.320	12	1	3	...	6	...	...	...	1	1	...
Wooster* .....	...	...	...	...	...	...	...	...	...	...	...	...
Xenia .....	.690	6	...	...	...	...	...	2	4	...	...	...
Youngstown	1.998	222	4	117	...	18	...	4	9	14	2	54
Zanesville .....	.248	8	...	...	...	...	...	1	2	1	4	...

* Marion and Wooster reports had not been received to date of going to press and Toledo's complete report for month had not been submitted. Ashland, Gallipolis, Jackson, Kenton, Norwalk, Painesville and Troy reported no cases of the diseases listed.

DIVISION OF PUBLIC HEALTH EDUCATION AND TUBERCULOSIS

Summary of Activities in April, 1918

Changes in Organization—

Miss Bertha A. Sells, appointed public health nurse in the Division April 1 for special trachoma work, was stationed at Waverly all month. The services of Miss Catherine McNamara, public health nurse in the Division, were loaned to the Portage County Health and Welfare League for one month.

Educational Work —

Literature distributed totaled 6,297 pieces, covering forty subjects. Three lectures were delivered by representatives of the Division. Twenty-seven newspaper publicity stories were issued, eighteen of which were released through the weekly News Letter, attaining a circulation of 3,343,110, or an average circulation of 185,728 per story, as compared with 239,639 per story in March. Pamphlets on typhoid fever and poliomyelitis, circulars entitled "The State of Ohio Is Interested in Your Baby" and "Machinists, Avoid Boils and Infections" and several reprints of articles from the OHIO PUBLIC HEALTH JOURNAL were issued.

Public Health Nursing Service —

Nurses who resigned during the month were: Miss Anza Johnson, Springfield; Miss Demerris A. Moon, Cambridge; Miss Gertrude Allen, Lorain; Miss Mabel Firestone, Canton; Miss Mary Holz, Niles. The last three have entered the Red Cross service. New nurses appointed were: Miss Helen E. Johnson (temporary), Cambridge; Miss Nora J. Viets, Huron County; Miss Thelma Peachler, Lorain; Mrs. Robert L. Murphy, Fostoria; Miss Mary E. Hill and Miss Lucile B. Lindsay, Mansfield.

Reported cases of inflammation of the eyes of the newborn numbered 162 for the month. Of these, 153 were white, six colored and three of unknown race; 89 were males, 70 females and three of unknown sex. Instructions were given to health officers by telephone in three cases, one case was cared for in a hospital under arrangements made by the Department, three cases were provided with nursing care by the Department, ten cases were investigated by the Department and two cases were reported as having impaired vision.

Tuberculosis Hospitals —

Proposed hospital District No. 3, comprising Erie, Lorain, Ottawa and Sandusky counties, was organized April 10. Preliminary work was begun in District No. 8 April 17.

The Division was represented at a meeting of the trustees of Springfield Lake Sanatorium April 9 and offered recommendations for increasing the usefulness of the institution. Inspections were made by representatives of the Division during the month at Dayton District Hospital, tuberculosis wards at the National Military Home and the Dayton State Hospital for the Insane, Butler County Hospital, Cincinnati Municipal Sanatorium, Dr. Rockhill's Sanatorium at Cincinnati, Cleveland Municipal Sanatorium and the pavilion for advanced cases at the Cleveland State Hospital for the Insane.

NOTIFICATIONS OF TUBERCULOSIS HOSPITAL ADMISSIONS AND DISCHARGES RECEIVED DURING APRIL, 1918.

Institutions.	Total Number Patients Received.	Number of Admissions.	Number of Discharges.	Total Number Admissions and Dis- charges.
Ohio State Sanatorium.....	69	34	40	74
Butler County Sanatorium.....	2	1	2	3
Franklin County Sanatorium.....	63	46	31	77
Lucas County Tuberculosis Hospital.....	50	30	32	62
Dayton District Hospital.....	6	7	6	6
Lima District Hospital.....	14	7	9	16
Springfield District Hospital.....	15	10	8	18
Springfield Lake Sanatorium.....	26	10	18	28
Rocky Glen Sanatorium.....	6	2	5	7
St. Anthony's Hospital.....	6	6	1	7
Total	257	146	152	298

Of the cases noted in this table, 230 were referred to local public health nurses, one was referred to the health department of another state, thirty were investigated by Division nurses, sixteen were found whose histories were unobtainable and twenty-one were pending investigation May 1. Of the fifty-six cases pending investigation April 1, twenty were investigated by Division nurses and one was referred to a local public health nurse. The twenty-one new pending cases made the total of cases pending May 1 fifty-six.

Discharged Tuberculous Soldiers —

	April.	Summary to Date.
Notifications received	36	344
Cases referred to P. H. Nurses.....	26	242
Reports received from P. H. Nurses.....	9	124
Cases written directly.....	8	92
Replies received	2	28
Cases visited by Division Nurses.....	9	53
Cases admitted to hospitals.....	4	11
Cases not heard from.....	34	99
Cases not found.....	11	58

DIVISION OF SANITARY ENGINEERING

Summary of Activities in April, 1918.

Investigations by representatives of the Division dealt with ten existing water supplies, four proposed water supplies, three existing sewerage systems and sewage treatment plants, ten proposed sewerage improvements and sewage disposal plants, one case where general sanitary conditions were inspected and one case involving proposed disposal

of creamery wastes. Testimony was given at a trial in Coshocton. Four days were devoted to a sanitary survey of the district near Wilbur Wright Aviation Field, Greene County. The Chief Engineer gave an address before the Cincinnati Engineers' Club April 18.

Fifteen plans of proposed sewers and sewage treatment improvements were received. Water supply plans were received from Alliance, Dayton and Youngstown.

Reports were submitted to the Commissioner of Health on the following subjects: proposed sewerage and sewage treatment plant for the Rotary Tire and Rubber Company, Muskingum County; pollution of Delamater Creek by Norwalk sewage; Defiance water supply; proposed sewerage and sewage disposal for Basil-Baltimore school, Liberty-Union District, Fairfield County; proposed sewerage and sewage treatment plant for the Victor Rubber Company, Clark County; proposed water disinfection plant for Youngstown; proposed sewage disposal for Bloomville Hotel, Bloomville; proposed low-service reservoir for Dayton; plans for additional filters for Alliance water purification plant.

In the matters of the Delamater Creek pollution and of the Defiance water supply (found impure), officials were cited to appear at hearings on July 12. Wooster was granted an extension of time to January 1, 1919, for the installation of a satisfactory water supply.

Approval was given a contract between Lucas County and the city of Toledo, arranging for joint use of a sewer, in accordance with a resolution passed by the county commissioners March 26, 1918, and accepted by the city council April 1, 1918. A Zanesville ordinance to prevent contamination of the city's new well water supply was approved. A sample of sand was approved for use in existing sand filters at the Mt. Gilead sewage treatment works.

Conferences were held with city officials, engineers, architects and others regarding water supplies and purification plants at Dayton, Youngstown, Dennison, East Liverpool, Delaware, Alliance, Wadsworth, Bellaire and Woodfield, and regarding sewer systems and sewage disposal arrangements at Paint Township School, Fayette County; Monroe Township School, Preble County; Clinton County Courthouse, Wilmington; Brown Township School, Miami County; South Newburgh; Euclid; Standard Car Construction Company, Trumbull County; Hotel Grace, Portage County, and Truro Township School, Franklin County. The work of the Division was discussed with the principal assistant engineer of the Virginia state department of health.

Thirteen certificates of approval of railroad water supplies were granted.

DIVISION OF INDUSTRIAL HYGIENE

Summary of Activities in April, 1918

There were reported to the Division during the month six cases of occupational diseases, including two cases of lead poisoning, one of them being fatal, and four cases of benzine dermatitis. The diagnoses were investigated in four instances. In addition, 177 cases of tuberculosis among industrial workers were included in physicians' reports during this time.

Complaints were received in regard to the existence of health hazards in various establishments, including machine shops, shoe factories, automobile factories and oilcloth plants. A number of these have been disposed of while others are still pending. A number of requests for advice in regard to the elimination of health hazards were taken care of.

The occupational disease exhibit was loaned to the Wisconsin industrial commission for exhibition purposes and a stereopticon and sixty lantern slides on occupational diseases and industrial hygiene were loaned to the Toledo Department of Health. Several press articles were prepared and a considerable amount of literature distributed. Plans have been made to send circular letters together with leaflets and pamphlets giving instructions in regard to the avoidance of oil infections to firms in the state having this hazard in their plants. A number of abstracts of current industrial hygiene literature were prepared and published in the *American Journal of Public Health*, and the reference library of the Division kept up to date.

Twenty-four lectures and nine written examinations were given in the local aviation school.

A number of miscellaneous conferences were held.

DIVISION OF LABORATORIES

Summary of Activities in April, 1918

Examinations during the month numbered 1,601, including 1,253 bacteriological examinations, 18 of chemical samples, 321 of samples submitted by the State Board of Agriculture and nine of samples from the State Liquor Licensing Board. Results of the bacteriological examinations were as follows:

Tuberculosis, positive 84, negative 378.....	462
Diphtheria, positive 32, negative 209, suspicious 12, no growth 4.....	257
Typhoid, positive 19, negative 35, suspicious 12.....	66
Wassermann, positive 137, negative 240, unsatisfactory 1.....	378
Rabies, positive 11, negative 4, unsatisfactory 2.....	17
Water	70
Miscellaneous	3
Total	1,253

Chemical samples examined included four of water, one of sand and 13 miscellaneous. Samples from the Board of Agriculture were: foods 111, drugs 42, miscellaneous 1, fertilizers 44, stock foods 107, insecticides 16.

Outfits distributed numbered 5,772, grouped as follows: tuberculosis 856, diphtheria 678, typhoid 318, malaria 42, Wassermann 613, ophthalmia 3,104, miscellaneous 27, water (chemical) 11, water (quarts) 4, water (bacteriological) 116, typhoid vaccine 3.

Of the 111 food samples examined, 36 were found satisfactory, four misbranded, 36 adulterated, and a report of insufficient information was rendered in 35 cases. The misbranded products included two lemon

extracts and two miscellaneous foods. Those found adulterated were: 18 samples of milk, two of sausage, three of hamburger, seven of vinegar, and one each of cider, lemon extract, orange extract, vanilla extract, grape juice and miscellaneous foods.

Of the 42 drug samples, reports were: satisfactory 24, misbranded 2, adulterated 12, insufficient information 4. Both the misbranded products were classed under "miscellaneous drugs." The adulterated samples were five of tincture of iodine, one of camphorated oil, one of sodium salicylate and five of miscellaneous drugs.

DIVISION OF PLUMBING INSPECTION

Summary of Activities in April, 1918

Inspections were made in two stores, five garages and shops, thirteen schools, three hotels and restaurants, three churches, eight industrial plants, three apartments, one theater, four county and municipal buildings, three hospitals, one military barracks, three clubs and lodges, two dormitories and two rest rooms.

Certificates of approval were issued for the Big Four passenger station at Marysville, fire department building at Newark, school at Bridgetown, tuberculosis hospitals at Dayton and Springfield, Reformed Church at Delaware, gymnasium at Miami University, Carson Hotel at Chillicothe, Star Tractor Company factory at Findlay, comfort station controlled by county commissioners at Paulding, American Brake Shoe and Foundry Company factory at New Richmond.

Plans were examined for three schools, two factories, two clubs and lodge headquarters, a county jail, a hospital and a Turkish bath house. Seven conferences were held.

HAWAII NOW INCLUDED IN REGISTRATION AREA

The recent inclusion of Hawaii has extended beyond the limits of the continental United States the area for which the census bureau annually collects and publishes death statistics. Within this area now reside about 73 percent of the total population of the continental United States and Hawaii. It comprises, in all, twenty-seven states, forty-three cities in other states, the District of Columbia and the territory of Hawaii. East of the Mississippi the only states not included are Alabama, Delaware, Florida, Georgia, Illinois, Mississippi, and West Virginia, while

west of the Mississippi the only states included are California, Colorado, Kansas, Minnesota, Missouri, Montana, Utah and Washington.

The annual collection of death statistics from states and cities maintaining adequate registration systems was begun by the Census Bureau in 1902, the first report covering the calendar years 1900 to 1904, inclusive, and for each succeeding year a separate report has been published. The original registration area contained 40 percent of the total population of the country. It remained unchanged until 1906, since which year it has shown an almost uninterrupted increase.

HEALTH OFFICERS' ROUNDTABLE

Enforce Whooping Cough Quarantine

That any local board of health which adopts strict quarantine regulations for the control of whooping cough will have the full support of the State Department of Health in enforcing these regulations is shown in recent correspondence between the Department and Health Officer J. A. Gosling of Tiffin.

Dr. Gosling informed the Department that the Tiffin board of health had adopted the policy of quarantining and placarding houses for whooping cough, adding that some difficulty was being experienced in enforcing the measure. The following letter, signed by the Commissioner of Health, was sent in reply:

I am in receipt of your letter of the 12th instant, enclosing notice of the action of your board of health with reference to the prevention of whooping cough. I take it from this notice that your board of health has adopted, advertised and recorded as part of your standing regulations a regulation declaring whooping cough to be a quarantinable disease and prescribing the quarantine to be enforced.

If this has been done so that you can be assured of a successful prosecution for the violation of your orders and regulations, I trust you will cause the arrest and prosecution of any person who violates these regulations. It certainly is time that the general public is aroused to the necessity of preventing needless cases and deaths of whooping cough.

As mentioned elsewhere in this number, four children died of

whooping cough in one week in Tiffin.

Quarantine Violator Fined

Louis Ocker of Sandusky would not stay away from work when the city health authorities put his residence under quarantine. His refusal cost him ten dollars when Health Director Schoepfle had him brought before the municipal court.

Civilian Health Is Topic

"The Health of the Civil Population in War Time" will be the central theme of the meeting of the American Public Health Association in Chicago October 14-17, 1918.

Hogs Ruled Out of Kenton

Hog-raising within the city limits will not be one of the food conservation measures followed in Kenton. The board of health recently voted against letting down the bars against the pork industry.

Blames Dust for Death Increase

Health Officer Landis of Cincinnati reports in the Cincinnati *Sanitary Bulletin* that the first four months of 1918 produced two hundred more deaths in the Queen City than the corresponding period in 1917. Deaths in January and February were fewer than last year, the increase coming in March and April. Dr. Landis attributes the high rate in this period to the scattering of street dust by high winds, causing much infection

from the respiratory diseases. He points out that in January and February, when the death rate was low, the heavy blanket of snow prevented the dissemination of this dust.

Wouldn't Force Vaccination,

so —

Some time ago, one is informed by the Chicago health department's

bulletin, the Chicago health commissioner called together the medical directors of the various railroads having offices in Chicago, with a view to establishing compulsory vaccination of railroad employees. One of the doctors demurred, and his road did not enforce vaccination. Soon after three cases of smallpox were reported from among the employees in this road's general office.

PUBLIC HEALTH NOTES FROM OVER THE STATE

The 1917 Red Cross Christmas seal campaign was the most successful Ohio has had, the Ohio Society for the Prevention of Tuberculosis reports. More than seven and one-half millions of seals were sold, as compared with fewer than six and one-quarter millions in 1916. The \$75,342.36 raised in the recent campaign for the anti-tuberculosis fight has been divided among organizations as follows: local communities, \$56,637.92; Ohio Society for the Prevention of Tuberculosis, \$11,331.13; American Red Cross, \$6,623.97. Ohio will have to increase her stamp sales by 75 percent to meet her 1918 quota, it has been announced.

* * *

Three sewage disposal plants, of which two are under construction, will make up Cleveland's disposal system, which has been under discussion for several years. The plants will be located as follows: one on the lake front at East One Hundred and Fortieth Street, one on the lake front at West Fifty-Eighth Street and one in Newburg Heights. The system has been planned to be adequate for a city of one-and-a-half to two million

inhabitants. It will cost two million dollars. The system of treatment to be employed is to be decided upon after a report is received from experts who recently studied the situation.

* * *

Immediate construction of a city detention hospital was urged by the Youngstown board of health in a letter to the safety director of that municipality last month. The present structure is said to be too small to care for the city's communicable disease patients.

City officials at Warren have selected a site for a new detention hospital.

* * *

Steubenville's city council recently authorized the expenditure of \$500 for a "pest house."

* * *

Toledo physicians are urging two steps to combat venereal diseases in that city. The proposed measures are: Immediate establishment of an emergency hospital and laboratory, and issuance of bonds for an adequate municipal hospital for these and other communicable diseases.

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The Ohio Public Health Journal

Vol. IX

JUNE, 1918

No. 6

EDITORIALS

War's Greatest Credit Item; You Can Help Increase It "The greatest credit item which the army medical corps has placed upon the war ledger, in the six months that the men have been in camp, is the prevention of some 13,000 cases of venereal disease. This is the number of men who would have had sex maladies, gonorrhea or syphilis, had they stayed in civil life, and who have remained healthy and fit only because we went to war.

"This figure is conservative: reckons only our advance, in the conquest of this disease, over the army conditions of peace times. If civilian figures were available, the credit would be greater. . . .

"Our measure of success in stamping out venereal disease has come from compulsory education in the army, from medical treatment, disciplinary measures, and from community co-operation. The army rate for peace times, although it was a gratifying reduction from civil rates, still was higher than our present figure because of the indifference of the public.

"Community sources of infection were not within the control of our medical corps. Now that the army is growing to millions, and every family or so has a son in it, we find it easier to arouse interest. Sources of infection are being wiped out, prostitution suppressed, alcohol prohibited, education on the subject promoted, and wholesome recreational facilities provided in camp and community. The next six months should make a better showing."

With the words here quoted Surgeon General Gorgas of the United States Army opens an article on "The Credit Side of Our War Ledger" in *Collier's Weekly*. In them you read the official pronouncement of the army authorities on the importance of the campaign against venereal diseases and of the results it has achieved.

Full credit, it will be noted, is given to civilian health agencies which have co-operated with General Gorgas and his corps. State and local authorities, backed by the aroused community interest to which General Gorgas refers, have given valuable assistance in the movement and the surgeon general is quick to acknowledge this support.

Of special significance to these civilian coworkers is the last sentence of the paragraphs quoted from General Gorgas' article, which may well be italicized: "*The next six months should make a better showing.*" The accomplishment of such a result will entail a still greater increase in preventive work. With the steady growth of popular sentiment for suppression of venereal infections, however, this increase should involve no great difficulties.

Ohio's newly adopted regulations for the control of venereal diseases are printed in this magazine. With the publication of these regulations, duty calls to every physician and health official. The enforcement of these rules, and the exercise of every other means possible for the restriction and prevention of venereal diseases, is a matter of prime military necessity.

Will you enlist for this fight—the biggest battle you can enter on this side of the Atlantic?

* * *

Shall We Continue Low Typhoid Prevalence Through Summer? A bit of encouragement for all who are interested in lowering

Ohio's typhoid rate is found in the monthly totals of cases reported during the first five months of the present year. The five months' total of 537 cases represents nearly a fifty-percent decrease as compared with the average for the corresponding months in the five-year period 1913-17. It represents also a decrease of 231 under the January-May, 1917, figures.

Monthly totals for 1918 are: January 107, February 105, March 119, April 99, May 107. This May figure may be increased slightly by late reports, but not enough to change the total materially. It must be remembered also that case reports are not as reliable a basis for comparison as death totals.

Nevertheless, when the reduction is as great as we have shown it to be this spring, there is good ground for hope that preventive work will be continued during the summer with enough effectiveness to make 1918 a new "low year" for typhoid fever in Ohio.

To fall back now would be little less than disgraceful.

* * *

Typhoid Prevention Is Summer Duty of Every Health Officer Last month's issue of the OHIO PUBLIC HEALTH JOURNAL was devoted to typhoid fever prevention.

The subject was covered so thoroughly in that number that any further discussion this month would be largely a repetition.

Typhoid prevention, however, should occupy a prominent place in the plans of every local health officer in Ohio throughout the summer. Work during the hot months is what is needed to bring about an appreciable reduction in Ohio's typhoid death rate.

During the latter six months of the year two-thirds of the state's typhoid deaths occur. During the four months from August 1 to November 30 one-half of the typhoid deaths are recorded.

Efforts from now on through the fall months will count for more than efforts at any other period in bringing the rate down.

We appeal to every health officer in the state to consider this a local problem. The keynote of the statewide anti-typhoid campaign which should mark this summer is that typhoid fever is easily preventable.

The local health officer is the man who must do much of the work of proving that statement true.

Read over again the advice on typhoid prevention presented in last month's JOURNAL. Then get busy and put into effect in your own community as many as possible of the preventive measures there suggested.

* * *

New Regulations Compel Quarantine of Whooping Cough Cases

Cases of whooping cough must now be quarantined in Ohio.

That is the central fact of the new regulations, published in this magazine, for the control of this disease which annually takes such a heavy toll of child lives. Heretofore the question of quarantining whooping cough has been left to the discretion of the local health authorities. The result has been in most localities that no control whatsoever has been exercised over victims of the disease. They have been allowed to run at large, scattering the infection among their associates, with the result that almost any case was likely to produce an epidemic.

This situation has been allowed to exist chiefly because the public has refused to consider whooping cough a serious disease. Health officials themselves in many instances have taken the view that it is useless to attempt to control the disease and that besides the danger of serious results is very slight.

Statistics of past years, which have been quoted in previous issues of this JOURNAL, prove this view to be unfounded. Whooping cough kills more children than scarlet fever or measles. It ranks second only to diphtheria as a death-dealing agent among the childhood epidemic diseases. Its heaviest toll is among babies. In the years 1911 to 1915, inclusive, 1,882 Ohio infants under two years of age died of whooping cough.

This, then, is the serious disease menace which the new regulations are designed to control. The enforcement of the new rules is largely in the hands of the local health officials of the state. They should familiarize themselves with the details of the procedure outlined in the regulations, should insist that physicians report cases promptly and completely and should at once adopt a policy of strict enforcement of the rules, feeling confident as they do so that they are performing a great service in behalf of the children in their districts.

* * *

What April Statistics Mean Ohio seems to have accomplished to Ohio's Baby-Saving Campaign a certain degree of "baby-saving" during the opening month of Children's Year. While, as explained in the discussion of the month's statistics elsewhere in this magazine, accurate figures for comparison are not yet available, conservative estimates indicate that the month was marked by a reduction in infant mortality which is by no means negligible, even though it is not enough to meet the state's monthly quota.

A few counties and cities accomplished satisfactory improvements during the month, others little more than held their positions and still others registered losses instead of savings. To all these classes it may well be pointed out that too great assumptions must not be based on one month's statistics. Those communities which are shown in the table to have saved their quotas in April should remember, lest over-confidence bring them to disaster, that they must "make hay while the sun shines" by piling up large savings in the spring months to balance the heavy midsummer mortality.

In short, the figures for April are presented purely as a matter of information and should not cause the slightest change in any community's plans, other than by encouraging it to redoubled effort.

* * *

Physicians Who Can't Go to War Can Serve at Home As has been outlined from time to time in these columns, the Division of Industrial Hygiene of the State Department of Health is devoting a large share of its attention this year to the investigation and improvement of health conditions in war industries. The very foundation of such a study must be the collection of data regarding the prevalence of occupational diseases among workers in these industries.

In theory the most obvious means of obtaining such data is the reports of occupational diseases which physicians are required by the statutes to send to the State Department of Health. Unfortunately,

however, Ohio physicians disregard this law far more often than they obey it, the law being without "teeth" in the form of a clause penalizing violations. Last month, for instance, four cases of occupational diseases were reported.

If these reports are to aid the Department in improving the efficiency of the munition workers, their number must be enormously increased. With the idea of testing out the way in which Ohio physicians will co-operate, if the sending of these reports is placed on the basis of a patriotic duty, the Department has sounded an appeal confessing its inability to compel obedience to the law and asking for voluntary obedience.

The work of the Division of Industrial Hygiene is to increase Ohio's contribution of materials for war by increasing the ability of Ohio's workmen to produce these materials. The Division's place in the workshop army is comparable to that of the Medical Corps in the combatant army.

Both armies are doing their part to crush autocracy. Ohio physicians have contributed gloriously to the one army. The question now arises: "Will those who remain at home contribute to the other army?"

The reporting of occupational diseases is the physician's patriotic as well as legal duty. Report blanks and any desired information will gladly be furnished upon request.

* * *

Rabies — a Disease in Which Delay May Be Fatal

Delay in applying treatment in suspected cases of rabies is exceedingly dangerous to the patient. Lack of appreciation of this truth is so evident that the State Department of Health has recently felt it necessary to issue a warning to physicians that no time must be lost in diagnosing and treating such cases.

The situation was brought out in concrete form with the death of a child in an Ohio village, due to rabies infection resulting from the bite of a dog. In this case, delay in getting the head of the dog to the Department laboratories for examination and further delay by the physician in obtaining material for treatment, gave the rabies virus six days' unhindered progress before Pasteur treatment was applied. The delay proved fatal. The attending physician, never before having treated a case of rabies, did not understand the need for haste. The Department feels that this case shows the need for instructions to physicians who may be similarly situated. Three main pieces of advice have been offered to physicians through the *Ohio State Medical Journal* and are repeated here:

1. Send in heads of dogs suspected of rabies by special messenger rather than by express.
2. Be familiar with the names of manufacturers from whom Pasteur treatment can be most quickly obtained.
3. In all suspicious cases begin treatment as soon as possible, without waiting for reports on laboratory examinations.

Knowing where to get material for treatment without loss of time is a bit of preparedness which may enable the physician at some time to save a life. The trouble which may be caused by looking up this information will be well worth while if some day the need for the knowledge arises suddenly.

Sending the head in by messenger will cost a little more than sending it by express, but the day or more of time saved will outweigh the difference. Treatment begun immediately can be discontinued without ill effects if examination produces a negative report.

As pointed out in an article on rabies in the OHIO PUBLIC HEALTH JOURNAL a few months ago, the virus travels along the nerve trunks until it reaches the brain, after which time the progress of the disease can not be arrested. Rabies develops most rapidly, therefore, from wounds about the head and most slowly from wounds far down on the extremities. The child whose death is cited above was bitten about the face, which caused the need for haste to be greater in that case than usual.

Physicians should consider seriously the facts and advice here presented, and local health officers should take steps to inform their respective communities in regard to procedure in suspected rabies cases.

Don't postpone preparations for action until the need for action is at hand, or the next case of fatal delay recorded may be from your town.

* * *

Lack of Epidemiologist Responsible for Delays

The shortage in the staff of the Department's Division of Communicable Diseases since the resignation of the assistant epidemiologist a few months ago makes it difficult for the Division to respond promptly to calls for epidemiological investigations which come in from local health officials.

All investigations at present must be made by the director of the Division of Communicable Diseases. With demands for assistance coming in from all parts of the state as frequently as they have been coming in recent months, it has been impossible for one man to handle the work without delays now and then.

In general, efforts have been made to give the preference to those calls which seemed most pressing and most important. Requests for assistance in diagnosing suspected cases of smallpox have been numerous.

and in these the policy has been followed of aiding the local officials only where there was a real difference of opinion among local physicians as to the diagnosis. Where the local doctors have agreed that the case in question was one of smallpox, the Department has not deemed it necessary to send a state investigator to confirm the diagnosis.

Efforts are being made to fill the position of assistant epidemiologist. Until these efforts meet with success, there must be at times more or less delay. The Department assures its coworkers over the state that it is endeavoring to give the best service possible under the circumstances. It requests that they take a sympathetic view of the situation and make no unnecessary demands upon the depleted epidemiological force.

* * *

Embalming Recognized as Protection in New Shipping Rules

Under the amended regulations for the transportation of bodies, published elsewhere in this issue, recognition is given to the value of proper embalming as a safeguard against danger to health from bodies in transit.

Formerly bodies could be shipped only when the coffin was enclosed in a strong, water-tight case, built according to specifications laid down in the regulations. As amended, the regulations permit a body to be transported in a casket enclosed in an ordinary shipping case if the body has been embalmed, preserving the old restrictions only for cases in which the body has not been embalmed. When the destination cannot be reached in twenty-four hours from the time of death, shipment of a body is forbidden unless it has been embalmed.

Officials whose duty it is to issue transportation permits should note that the lowering of the requirements applies only to embalmed bodies, and should assure themselves before permitting the shipment of any corpse that the regulations have been obeyed. Any violation of these rules involves great danger to the public.

* * *

Medical Supervision in Schools Will Improve Children's Health

The improvement in health conditions among Ohio children which would follow the general installation of physical supervision in the schools of the state is incalculable. Every city which has taken up this activity reports great benefits. Every survey which is made in a school that has no medical supervision discloses more or less bad health conditions. To bring the state at large up to the standard set by a few advanced cities is a worthy ideal toward which to work.

In a year devoted to work in behalf of the children's health, Ohio communities should give this subject special consideration. Between

now and the opening of school in the fall, health authorities, school authorities and all other persons interested in civic progress and welfare should investigate the needs and possibilities in their own respective communities. Vigorous campaigns should be begun in all localities to remedy conditions which are admittedly bad.

What the situation is in the state is indicated in the article by Dr. Hollingshead in this number. It is within the power of local communities to make great improvements over existing conditions. It is within the power of the people of the state to make thorough statewide reforms. Only by making such changes can the people prove to the world that they are more interested in their children than in their pocket-books.

* * *

Lowering Death Rate Means Improving Nation's Health

"It was once thought that a high infant death rate indicated a greater degree of vigor in the survivors. Now it is agreed that the conditions which destroy so many of the youngest lives of the community must also result in crippling and maiming many others and must react unfavorably upon the health of the entire community."

The foregoing statement is taken from a bulletin issued some time ago by the Federal Children's Bureau. It suggests a word of comment upon one side of the present child welfare campaign which has, perhaps, not been sufficiently emphasized — namely, the value which the organized work now going on will have in improving the health of childhood in general, as well as in reducing the number of preventable deaths of children.

The effects of intelligent child hygiene work can not be measured merely in terms of immediate reduction in infant mortality. There is bound to be, in addition, a far-reaching effect in lengthening the life-span of the generation which is now in babyhood. If we build well now, we shall be able to see, a quarter-century, a half-century or three-quarters of a century in the future, a sturdier manhood and womanhood, testifying to the value of our labors.

It is encouraging to note in this connection the reports which come in of parents who are being awakened by the weighing and measuring tests of their children to the need for medical care of these infants. It must be kept in mind that the testing of babies is more than a registration or a census. If physical defects are disclosed in the examination, thorough efforts must be made to have them remedied.

If this is not done, one purpose of these tests will have been defeated, and an opportunity will have been lost to lay a foundation-stone in the structure of national health which we are now building.

Local Health Organization in Ohio

During May and the first week of June the State Department of Health confirmed the appointments of seventeen Ohio village health officers, chosen by village councils to serve in lieu of boards of health. The following list shows the occupation, age and yearly salary of each of these health officers.

Laborer, 33, \$10.

Farmer, 37, \$12.

Retired, 67, \$25.

Physician, 51, fees.

Teacher, 33, \$10.

Physician, 35, no salary.

Oil Worker, 44, \$20.

Farmer, 60, \$10.

Physician, 53, \$15.

Laborer, 45, \$65.

Physician, 69, \$25.

Physician, age not given, \$4.

Physician, 35, no salary.

Barber, 47, \$60.

Miller, 36, \$12.

Physician, 56, \$50.

Teacher, 26, \$35.

The BIGGEST PUBLIC HEALTH —PROBLEM of the DAY—

will be discussed NEXT MONTH in a

VENEREAL DISEASE NUMBER

of the OHIO PUBLIC HEALTH JOURNAL.

Various phases of this important topic will be considered in half-a-dozen authoritative articles.

The coming number will serve as a guide to health officers, physicians and others in carrying out the provisions of the new **VENEREAL DISEASE REGULATIONS** published in this issue.

Physical Education in Ohio Schools

By Frances M. Hollingshead, A. M., M. D., Director, Division of Child Hygiene, State Department of Health

ARE the public schools meeting their full responsibilities towards the health and welfare of their pupils? If one pauses in the midst of our battle for national existence to consider the full meaning of this question, he necessarily answers in the negative.

Some one then may ask: "Is that a fair accusation against our school system?" What are the facts in Ohio?

Somewhat more than half of the cities of the state have some actual work for physical supervision of pupils. This means everything from an extensive and expensive system, such as we have in our largest cities, through a system of whole or part-time medical officer or whole-time nurse, to a system representing the merest beginnings of physical supervision, comprising either limited services of the community public health nurse without assistance from the physicians or dentists, or perhaps a short period of volunteer services by physicians alone.

Eliminating the cities, eighty in number, representing units of five thousand or greater population, with physical supervision of varying standards in at least half, there remain the villages as smaller units to be considered. These latter places, of which there are over seven hundred incorporated in the state, and the hundreds of rural school districts without exception

have no systematic physical supervision at all. When we realize that three-fifths of the population of the United States still lives in the country we know there must be greater numbers of children in the purely rural school systems than in the larger schools. Indeed, there are in Ohio over sixty thousand more children in rural (including village) schools. Yet these are the schools, together with the schools of the small cities, in which there is little or no physical supervision.

This condition exists in spite of the fact that the compulsory nature of our school system entitles the public to the very best health supervision.

The Present Situation

In answer to a questionnaire sent out recently by the Ohio Health and Old Age Insurance Commission, partial returns show the following facts concerning the status of physical supervision in the state:

In 54 cities returning the questionnaire, there was medical inspection in 18, none in 30 and no answer for six. In 13 cities physicians were paid for whole or part-time work and in five cities physicians' services were voluntary. School nursing service was provided in 34 cities, 14 having all-time service and 20 part-time. In 59 counties answering the questionnaire, physicians in 11 communities were stated to have volun-

teered part-time service. Thirteen counties had county nursing service in the schools, three full-time service, 10 part-time. In 24 colleges, 12 employed part-time physicians and four full-time; seven employed part-time nurses and three full-time; 11 had dental supervision in addition and 21 gave training courses in general hygiene.

In the schools of the 54 cities replying to the questionnaire, 41 had calisthenics — 38 in the grades and three in the high schools only. In 14 of the 59 counties there was some sort of physical training, while in 24 colleges 20 had physical training for students and 13 for teachers.

In this casual glance at conditions in the state gained from the questionnaire, one must realize at once that the rural school child has the least physical supervision, that the school child in the city has considerably more and that the college student has the most of all. This is, on the face of it, an irrational plan, since the child of preschool age even — the child too young for the present school system to handle — is the one who should have the greatest amount of physical supervision. In lieu of preschool supervision, early school supervision should naturally follow.

We have believed that Ohio had a burden of physical defects in her schools to the extent of about seventy percent. Doctor Wood, who has just completed a nationwide study, places the percentage even higher and claims a seventy-five percent burden for the United States, or more definitely that 16,000,000 school children have physical defects, by far the larger number of which are remediable.

If proper supervision of the children of preschool age were established throughout the state, we should be able to remove the greater percent of the present burden before the child enters school. This should undoubtedly be our aim, for the longer we neglect to do the early work the longer will superintendent and teachers have to be hampered in their particular province by handling in their school groups the retarded, the feeble-minded, the under-nourished and the pretubercular children.

Remedies That Are Needed

Given the actual conditions which now exist in Ohio schools, what could be done to save many of our children's lives and make many other children physically more fit? Six courses at least should be considered:

1. **A better system of medical and dental supervision** in the schools, under the control of efficient local health departments and carried out by physicians, dentists and nurses working together. If this system is entirely under the boards of education of the public schools it removes all control from parochial, private and Sunday schools, all of which should be included.

2. **A sufficient amount of home visiting by public health nurses** to see that as much follow-up and corrective work as possible is accomplished.

3. **Proper school buildings**, inexpensive and well-planned for light, heat, air and plumbing facilities, adapting each of these to the health and morals of the children rather than to the conventional and elaborate plans of architects who have a definite scheme to sell, as too often happens at the present time.

4. School grounds properly arranged for recreation facilities and for beautification, in order that the child shall carry away from school an association of beauty as well as a recollection of healthful, happy exercise and sport. The absolutely barren, unplanted, even neglected school yard is far too common in schools of all types.

5. Proper provision for the nourishment and living conditions of the child. This will sometimes mean providing nutritious food for children in the school itself. It will mean, particularly, education as to the food requirements of children and as to child labor regulations. It is a well-known fact that failure to make progress in school can be traced in many children directly to improper home conditions, retardation being due to the child's physical condition, which in turn may result from home conditions subject to correction.

6. Introduction into the school curriculum of a regular health program which will teach general hygiene, clean living and proper morals as a developmental matter, beginning with the very little child and ending with real community knowledge and responsibility imparted to the more mature boy or girl. This will send the pupil out of the schools armed with a sense of responsibility to the community and with a decent, healthy mental attitude towards the greater problems of life with which he is sure to come in contact.

A statewide program for general hygiene training in the broadest sense would assist markedly in eliminating the burden of physical defects, not alone from our schools but from the homes as well, for the child would inevitably take back

into the home the preventive lessons and experience of the school training. This is the least expensive type of physical supervision because much of it may be done without the services of physicians and nurses. It is a type of education quite as important as the teaching of the three R's, which in the past we have regarded with such complacency as all sufficient.

How Obtain Reforms?

We come naturally to the question of how these healthier and happier lives can be obtained for our children. The time in which results may be obtained and the manner in which they may be obtained are directly dependent at present upon the length of time which will be required fully to convince the public that the lives of our children are as essentially a war issue as any which this land is facing today. It will be necessary to teach the people of Ohio (1) that there is a steady decline in our national birth rate, which will continue in the future unless we guard against such a possibility, and (2) that it is wise to spend the largest sums of public money upon preventive education and upon all those activities represented under the name of public health, rather than upon our police and fire protection and upon live stock.

Because we as a state, like all other states, will be sure to take a long time to recognize these facts as realities, the first step to bring us into line would be the enactment and enforcement of legislation requiring physical supervision of children exactly as we have legislation requiring school attendance. There must follow financial support sufficient to produce results or otherwise one may have to say at the end of a given period, just as

we have had to say of other phases of our school work, that but little has been accomplished because already overtaxed communities have not been able or willing to put sufficient public means to the credit of the plan. This probability could be met by federal enactment of a law similar to the Smith-Hughes law, which would permit of federal aid in amount proportionate to state aid.

There has been no more opportune time for such legislation than the present. The elements of our population, alive to the necessities of the future of our country, are better organized today than ever before. School men are particularly aware of the need for physical supervision. With the live groups of our state working together for legislation and support for physical supervision, another legislative term should not pass without some definite action.

Given, however, ample authority and support for physical supervision in the schools, it will be necessary carefully to safeguard provisions for the type and amount of supervision, in order that we may avoid some of the difficulties of the Massachusetts system, for instance, where owing to the lack of provision for uniform standards an unfortunate situation exists. This has led the Massachusetts State Department of Health to state recently: "At the present time there is nowhere lodged the authority, either in the state board of education or the state department of health, to establish standards, even minimum standards, for the carrying on of school hygiene work. The matter is left wholly to the individual boards of health or school committees. Hence, while some communities are doing excellent work, many others are doing

the work in a more or less perfunctory manner, failing to achieve the maximum benefits of school hygiene work." It is obviously possible to prevent this by placing the authority for standards primarily in the hands of the State Department of Health and secondarily under properly organized district or county health units, which will sooner or later be demanded in the state.

Immediate Possibilities

Pending legislation and improved administrative organization, those communities without even the beginnings of physical supervision should establish some approved form of work, effectively supported. It is not always the complex, expensive system that accomplishes the greatest good. The enthusiastic, conscientious worker — perhaps a volunteer — may start a piece of work which no community will be willing to give up and which may lead to a comprehensive program. Wartime needs have produced such workers in other fields. Why should this vitally important work for our children be neglected? The parent-teacher's associations especially may help effectively in organizing and supporting the simpler programs as well as developing more thorough physical supervision. Health leagues and medical societies can come to the front with definite service other than mere endorsement. The time is ripe for action.

It must be clearly understood that in spite of increased taxes and demands upon public budgets, financial provision for physical supervision is imperative for the future. Volunteer effort cannot long be relied upon for continuing a necessary public service.

Ohio's Investment in Smallpox

By E. J. Schwartz, M. D., Director, and Sara Kerr, A. B., Statistician,
Division of Communicable Diseases, State Department of Health

WHEN a state can protect itself against smallpox, why does Ohio permit over 2,000 cases in one month and an average of 263 cases per month for six years of record without taking definite action for statewide suppression? Certain communities seem to consider the disease a disgrace in their midst but others fearlessly attempt to minimize its prevalence, hoping to continue the day's business in spite of smallpox. Schools, churches and theaters have been closed, public meetings prohibited and business inter-

rupted, but the community and the state tolerate the presence of the disease to a degree unbelievable were not actual case reports at hand.

October, 1917, marked the beginning of Ohio's latest epidemic, which is just subsiding and which has rolled up more cases to the credit or discredit of the state than any epidemic within six year's record. In September, 1917, there were 178 cases of smallpox reported in the state, a monthly total too large for a year's record considering the easy preventability of

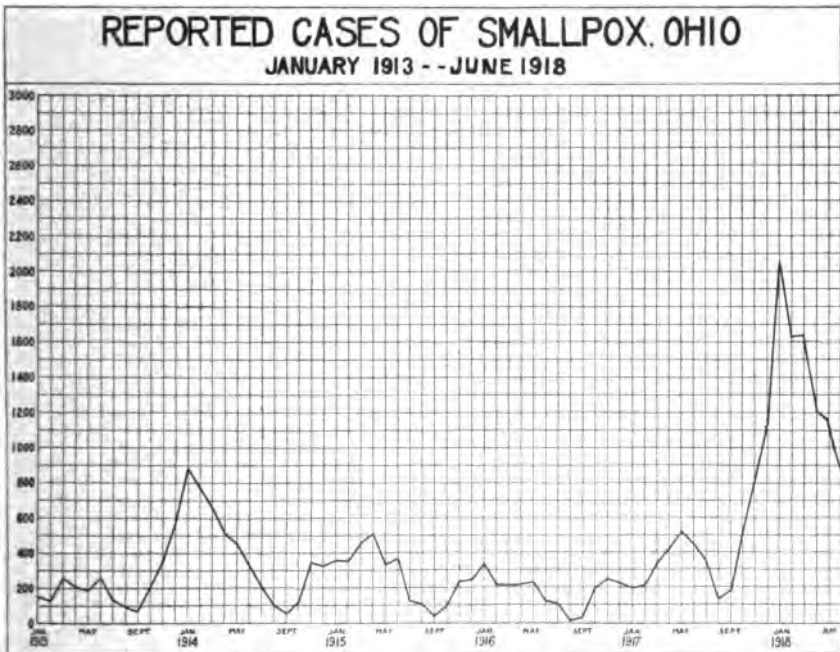


TABLE I. SMALLPOX. REPORTED CASES AND DEATHS, OHIO BY YEARS, 1912-1917, AND BY MONTHS OCTOBER, 1917—MAY, 1918.

Year.	Reported Cases.	Deaths.	Month.	Reported Cases.	Deaths.
1912	827*	5	1917 October	510	..... 2
1913	2,633	7	November	800	..... 1
1914	4,789	15	December	1,144	..... 5
1915	3,221	8	1918 January	2,009	..... 4
1916	2,184	9	February	1,632	..... 1
1917	5,251	7	March	1,650	..... 1
			April	1,200	..... 1
			May	1,158	.....
Total	18,905	51	Total	10,103	14

the disease, but only a normal monthly figure for Ohio, making allowance for the state's toleration. For October, however, 510 cases were recorded, more than doubling our tolerated normal. Monthly totals continued to increase until in January 2,009 cases were reported. The decline since January has been gradual as shown in Table I, giving the number of reported cases and deaths by months during the present epidemic, 10,103 cases and fourteen deaths, together with reported cases and deaths by years 1912-1917, a grand total of 29,008 cases and sixty-two deaths for Ohio in six years and five months. Assuming twenty-one days as a minimum for illness and quarantine in each reported case, 609,168 days or 1,669 years of normal activity were squandered by residents of Ohio during the period because they preferred smallpox to vaccination, preventable illness to health. Such a state record cannot be proclaimed today as patriotic.

The accompanying diagram indicates quickly the unusual prevalence of smallpox within the past nine months. June's record is already high above the tolerated normal. Before the epidemic ends, over 12,000 persons will have suffered from smallpox since October 1, 1917. From the date of our entrance into the war to June 15, 1918, 10,903 persons in Ohio are known to have had smallpox, entailing a loss of 29,000 days or 630 years of work at low estimate.

To bring home with greater reality Ohio's investment in smallpox, an attempt was made to procure statements of actual expenditures of local communities. A questionnaire was sent to health officers in epidemic centers in twenty counties and to health officers of our five largest cities. Looking at Table II, listing the results of inquiries in the five cities, our failure to secure complete information is quite evident. Columbus and Toledo did not supply any information as to public ex-

* Less complete than records for succeeding years.

penditures. Cleveland gave only an estimate with this explanation: "The reason I am unable to give you this accurately is because some of the cases have been taken care of at the city hospital, some at the pest house at Warrensville; here we furnish an attendant at seventy dollars a month and a cook at sixty-five dollars a month, and the food is furnished through the workhouse."

The per capita expenditure for Cincinnati and Dayton differs by \$6.45. Since hospitalization of cases is the practice in Cleveland as in Cincinnati and Dayton, the estimate cited for Cleveland is probably far from the actual cost and places the average of \$14.81 much too low for the 1,162 cases in the three cities. Using the per capita cost of cases in Cincinnati and Dayton, \$34.99, the probable public expenditures in the five cities for the 1,573 cases would total \$55,039.27.

If our larger and better organized health departments are not yet keeping books on a business basis, it is to be expected that the bookkeeping of health officers in

the smaller districts could not supply the information required in the questionnaire. A bill of \$38,780.68, however, charged to the account of 3,151 cases of smallpox is shown in Table III, summarizing the incomplete statements of public expenditures in the twenty counties. In the same table, the distribution of this expense is given by counties with the cost per county showing a variation from \$36.75 in Stark County, reporting \$4,961.72 spent on 135 cases, to \$2.15 in Allen County, which reported expenditures of \$349.78 for 162 cases. The average expenditure reported for the 3,151 cases in the twenty counties figures \$12.31 per case. These cases were for the greater part handled without hospitalization, being located outside of cities with hospital facilities, Akron's six months' total of 571 cases not being included, for instance, in figures for Summit County.

How the thirty-nine thousand dollars (round figures) was invested in the twenty counties is shown in Table IV.

The sum reported spent for

TABLE II. SMALLPOX. REPORTED CASES AND CASE RATES, WITH REPORTED PUBLIC EXPENDITURES, OCTOBER, 1917—APRIL, 1918, IN FIVE LARGEST CITIES OF OHIO.

City.	Reported Cases.	Reported Case Rate Per 1,000 Population.	Reported Public Expenditures.	Public Expenditures Per Case.
Total	1,573	.954	\$17,196 72	\$14 81*
Cincinnati	192	.384	7,337 44	38 21
Cleveland	817	.817	5,000 00*	6 12*
Columbus	221	.884	*	*
Dayton	153	1.071	4,859 28	31 76
Toledo	190	.950	*	*

* Cleveland submitted an itemized estimate and Columbus and Toledo no information as to expenditures.

TABLE III. SMALLPOX. SUMMARY OF QUESTIONNAIRE FOR REPORTED PUBLIC EXPENSE IN TWENTY COUNTIES.

County.	Public Ex- pense Re- ported.	Public Ex- pense Per Case.	Cases Cov- ered.	Cases Over 18 Years of Age.	Minimum Loss in Wages.*
Total	\$38,780 68	\$12 31	3,151	1,732	\$62,352 00
Adams	2,069 65	11 12	186	125	4,500 00
Allen	349 78	2 15	162	118	4,248 00
Butler	416 65	8 01	52	34	1,224 00
Greene	2,858 41	10 35	276	169	6,084 00
Guernsey	606 79	6 32	96	60	2,160 00
Henry	1,500 93	5 43	276	44	1,584 00
Hocking	2,361 53	19 35	122	58	2,088 00
Lorain	2,368 34	26 02	91	58	2,088 00
Medina	76 50	7 65	10	9	324 00
Miami	1,094 07	10 13	108	45	1,620 00
Montgomery	5,478 38	28 38	193	133	4,788 00
Perry	315 70	21 04	15	8	288 00
Pickaway	862 02	16 26	53	21	756 00
Portage	300 96	3 90	77	39	1,404 00
Scioto	7,668 78	17 54	437	285	10,260 00
Shelby	1,147 94	2 37	484	199	7,164 00
Stark	4,961 72	36 75	135	120	4,320 00
Summit	2,417 00	18 31	132	78	2,808 00
Tuscarawas	1,301 94	13 99	93	66	2,376 00
Wayne	623 59	4 07	153	63	2,268 00

food is more than one-third of the whole bill, while medical and nursing attendance cost a thousand dollars less than food. Health officers reported a total of 568 families provided for at public expense, which makes the bill for food per family less than \$23. The average length of quarantine reported by health officers for the 3,151 cases was twenty-five days, four days longer than the minimum used in estimating financial losses. At such figures, the 568 families were provided with ninety-two cents worth of food per day per family. How much of this bill may have been illegally paid for families able to provide for themselves during quarantine has not

been determined. In answer, however, to the query in the questionnaire, "How many quarantined families were in such financial condition that they were unable to pay expenses?" health officers stated 515, or fifty-three families fewer than were reported to have been provided with food.

Considering the many complaints of broken quarantine made to the State Department of Health by persons who demand the placing of guards rather than protect themselves by vaccination, either the reported expenditures of only four thousand dollars for guards is too low or guarding smallpox patients is a poorly paid occupation.

It is to be hoped that on the

* Estimate on basis of eighteen days' work lost at two dollars per day wage for all reported cases over eighteen years of age.

whole the \$4,200 for fumigation was more wisely invested than the \$14.40 reported spent by one health officer for candles for fumigating in eight cases in four families. This same health officer reported a donation of \$75 towards expenses by a business concern, the amount to be subtracted, although expended, from the total of \$541.01 for the eight cases, one of the highest statements of cost per case submitted, \$67.63. For these eight cases, \$154 was spent for guards and less than five dollars for free vaccination.

The last two columns in Table III attempt to reach an estimate of loss of earnings for cases over eighteen years of age. Counting eighteen working days at the minimum of two dollars per day wages, the amount is \$62,352, too large a sum for twenty counties to lose in six months from an easily preventable cause, and yet an absurd understatement considering the value of a day's work to the state and nation at this time. Adding the \$38,780 reported expended and the \$62,352, so conservatively figured for lost work, \$101,132 were invested by the twenty counties in the six months for 3,151 cases of smallpox, deaths and community unrest being wholly ignored. The same counties, however, reported 4,389 cases during the six months, the difference of 1,238 cases to be accounted for by health officers failing or being unable to fill in the questionnaire. Figuring on the same basis for the 4,389 reported cases as for the 3,151 cases covered by the questionnaire, the total investment by the twenty counties increases to \$144,252 for the six months, \$24,042 for one month's average. \$1,200 per county per month. If

TABLE IV. CLASSIFICATION OF REPORTED PUBLIC EXPENDITURES FOR 3,151 CASES OF SMALLPOX IN TWENTY COUNTIES.

Total	\$38,780 68
Food	12,974 60
Fumigation	4,227 43
Guards	4,044 31
Medical and nursing attendance	11,998 53
Miscellaneous	5,535 81

the twenty counties had expended \$1,200 a month each for the services of well qualified health officers with nurses and other assistants, the return on the investment would not have been smallpox.

If a public health bill should be presented at the next legislature to provide efficient public health administration at a cost not to exceed the investment in smallpox, how many petitions for the passage of such a bill would be forwarded from the twenty counties?

With twenty counties tolerating smallpox for six months at a cost of over \$140,000, conservatively figured, what was expended by Ohio's eighty-eight counties from the first of October, 1917, to June 15, 1918,—eight and one-half months? The sum exceeds \$360,000 on the low basis of the reported expenditures in the twenty counties and the minimum wage loss of two dollars per day for eighteen days for all cases over eighteen years of age. If the case cost in the cities prevailed in other sections of the state the total reached \$620,000 for the eight and one-half months with every indication of a million-dollar investment by the end of a year.

What are the returns upon this investment? At least 16,000 persons in the state have secured immunity from smallpox for the rest

of their lives by enduring illness and quarantine because of a loathsome disease rather than submit to the slight discomfort of a clean vaccination. Health officers reported in the questionnaire an average of three exposed persons vaccinated for each case reported upon, 9,586 vaccinated exposures for the 3,151 cases. At such a rate, 48,000 exposures were vaccinated and have secured immunity by a much cheaper and more desirable method than the 16,000 persons who were the source of exposure. To be added to this total of 64,000 immune persons are the thousands — tens of thousands, let us hope — who had the wisdom to be vaccinated or revaccinated when the disease became prevalent in their communities. This form of dividend can be over-estimated, however, since the questionnaire revealed 473 exposed persons who refused to be vaccinated, 4 percent of reported exposures, and 639 secondary cases who neglected vaccination even after exposure.

S. K.

Nothing new can be added to what has already been written relative to the control of smallpox; neither can anything additional be said as to why it has been and now is prevalent. To take up the transmission, diagnosis and prevention of the disease in any extended form would be repeating what has been said many times before. The value of vaccination as a preventive measure has been so long and so thoroughly established that only a very few need convincing and it would be foolish to try to convince them. The importance of isolation, quarantine and concurrent and terminal disinfection in controlling the spread, not only of

smallpox but of other communicable diseases, is so universally accepted that further discussion would be useless. Some of the causes given for the prevalence of smallpox in Ohio are: first, many cases do not require a physician's aid; second, many physicians are misled by the mild character of the disease; and third, the people do not dread the present form enough to guard against it by vaccination. These different causes might be discussed in detail but most of Ohio has knowledge by actual experience that these statements are true.

However, despite the many reasons which may be and have been given — carelessness in quarantine and other lax measures of control of which many inexperienced health officers have been guilty, — there is only one good and sufficient reason for the prevalence of smallpox in Ohio and that is lack of vaccination. Knowing that vaccination is the method for the control of this easily prevented disease and knowing that the public in general cannot be convinced by mortality records, which are comparatively insignificant in the present mild form of smallpox, the writers have aimed to prove by the foregoing statistics that there is another important factor in considering smallpox: the economic loss to each community where the disease is prevalent. Local health officials will be able to find much that is startling in the statistics which are presented herewith.

Realizing the importance of vaccination as a means of preventing smallpox and knowing that smallpox does cause suffering, that it has caused deaths and that the data given shows evidence that it is expensive, why should health officials

not make some concerted effort to carry out the following suggestions: first, that free vaccination of all children on entering school and every five years thereafter during the school age be required; second, that all colleges make vaccination a requirement for admission; third, that all county and state institutions demand vaccination upon the entrance of an inmate; fourth, that all employers of labor demand vaccination as a requisite to employment the same as other qualifications; fifth, that not only vaccination but revaccination be demanded in every walk in life, as it now is in military life.

Until such a time as vaccination is as complete as recommended above, we shall continue to have smallpox. As soon as these recommendations are carried out as they should be by health districts—by appropriation if by no other methods—smallpox will cease to exist, as it has ceased to be a menace in military circles. Funds are obtained in each health district by appropriation for the purpose of disinfection, and no one expects the individual to pay for the fumigation of his own house. As vaccination is more efficient than fumigation in preventing smallpox, why not make an appropriation sufficient to cover free vaccination for all?

Had the advice of this Department relative to general vaccination been observed in Ohio during the past few months, the great expenditure shown by the tables could have been obviated. The recommendations show that free vaccination is an economy in preference to maintaining costly quarantine.

E. J. S.

A THING YOU CAN'T BUY

"A pair of baby's eyes are priceless. No amount of money a court can give will compensate for the loss of an infant's eyes."

This statement was made recently by a judge in a California court as he awarded \$25,000 damages to the mother of a baby made sightless by the carelessness of an attendant at the child's birth.

A baby's eyes are priceless—yet, it is estimated that 50,000 of the 300,000 blind dependents in the United States are blind on account of a preventable disease caused by a germ that gets into babies' eyes at birth.

A school child's eyes are priceless—yet the slow progress in school of many a boy or girl is due to poor eyesight which might easily be remedied by the use of proper glasses.

A workman's eyes are priceless—yet there are nearly 200,000 accidents to eyes in industry in this country every year, and practically all of these could be prevented.

Eyesight is a priceless possession—yet we neglect and even abuse our eyes, seemingly heedless of the fact that if mankind suddenly were to lose its eyesight, the race would die out. No one will doubt this statement who will review the ordinary acts of his daily life, and realize the indispensable part the eye plays in them all, from the most ordinary to the most important.—R. H. Bishop, Jr., M. D., Commissioner of Health, Cleveland.

Typhoid fever germs enter the body by only one route—through the mouth.

What Counties Did in Baby-Saving in First Four Months of Year

THE accompanying table is published for the information of health officials and child welfare workers in the various counties of the state. It will enable any one to see how many infant deaths have occurred in his county during the first four months of the year and to estimate (though not with perfect accuracy) what has been accomplished toward reducing the county's baby death rate.

The only basis for estimating "savings" in the state at present is comparison of this year's deaths with the deaths in an average period of the same length in 1916. For example, if you wish to see what has been accomplished in Ashland County in four months, act as follows: Total the monthly death figures for 1918, obtaining 13 as the number of deaths in the four months. The deaths in the average period of four months in 1916 were one-third of the 1916 year's total, or 14. The saving then is one. The quota of saving assigned to the county for the year 1918 is 12, or four for three months. Ashland, then, has attained only one-fourth the assigned saving.

For an accurate comparison, however, death totals *by months* for 1916 (or preferably 1917) must be used, instead of monthly averages. Averages are unsatisfactory because of the seasonal fluctuation in death totals. At present no monthly figures, separated by age groups, are available for Ohio. The State Department of Health is endeavoring to have

such statistics compiled by the Bureau of Vital Statistics, and hopes to be able to base comparisons upon them later in the year. Statistics for the year 1917 will be available soon, it is promised.

Monthly infant death totals will be compiled throughout 1918 and at the end of the year information as to the results of the baby-saving campaign up to that date can be published without delay.

April, it will be remembered, was in reality the first month of Children's Year. Under the unsatisfactory system of comparison with 1916 averages, the state in that month saved twenty-one babies. It is estimated, however, that the actual reduction below the April, 1916, total was at least over 300; compilation of the 1916 monthly statistics is necessary before a more exact statement in this regard can be made.

In comparing the April, 1918, figures with those for April, 1916, these three points will have to be remembered: First, the infant death total for April, 1916, was probably abnormally high as compared with the usual April total; second, a heavy saving should have been made in April so as to balance the large number of deaths which can be expected during the hot summer months; third, despite these considerations Ohio failed to meet its monthly quota of lives to be saved.

Comparison of individual county totals for April with the 1916 average shows that thirty-six counties saved their quotas or over, and that thirty-two counties not only

failed to save their quotas but actually lost more babies than in the average month of 1916. The other twenty counties saved some babies but not enough to meet their quotas.

City statistics similar to those given for counties have been com-

piled but must be omitted from these columns because of lack of space. In the case of the larger cities, the city totals do not vary greatly from their respective county totals. Any one interested in the figures for a given city can obtain them upon request.

DEATHS OF CHILDREN UNDER 5 YEARS OF AGE IN OHIO, BY COUNTIES, IN FIRST FOUR MONTHS OF 1918, WITH 1916 TOTALS OF SUCH DEATHS AND BABY-SAVING QUOTAS FOR 1918 BASED ON THOSE TOTALS.

County.	Deaths, 1916.	Quota to be Saved, 1918.	Deaths, 1918.			
			Jan.	Feb.	Mch.	Apl.
Total, State	15,349	4,510	1,237	1,208	1,376	1,257
Adams	65	20	2	7	7	6
Allen	170	51	20	10	31	18
Ashland	42	12	2	4	5	2
Ashtabula	163	48	10	11	8	14
Athens	148	43	17	12	10	13
Auglaize	59	18	1	8	7	3
Belmont	413	120	27	22	34	24
Brown	42	12	4	4	3	1
Butler	258	75	25	27	23	13
Carroll	28	8	5	0	3	4
Champaign	52	16	3	7	7	1
Clark	177	51	9	19	21	20
Clermont	66	20	5	6	4	6
Clinton	38	11	3	5	3	4
Columbiana	252	75	17	15	22	28
Coshocton	70	21	6	3	3	2
Crawford	57	17	4	4	7	2
Cuyahoga	2,972	870	265	215	203	223
Darke	87	25	7	7	4	11
Defiance	42	12	3	3	7	5
Delaware	58	17	4	3	3	2
Erie	53	16	5	8	3	2
Fairfield	68	20	11	8	9	5
Fayette	48	14	9	4	9	3
Franklin	609	180	57	51	71	68
Fulton	47	14	2	4	1	3
Gallia	57	17	2	1	6	2
Geauga	23	7	2	3	4	1
Greene	68	20	5	3	11	10
Guernsey	123	36	9	11	11	8
Hamilton	1,218	355	106	117	136	113
Hancock	78	23	5	5	4	11
Hardin	90	26	3	3	11	5
Harrison	30	9	1	3	4	1
Henry	34	10	2	5	6	1
Highland	53	16	3	8	4	6

DEATHS OF CHILDREN UNDER 5 YEARS OF AGE IN OHIO, ETC. — Concluded.

County.	Deaths, 1916.	Quota to be Saved, 1918.	Deaths, 1918.			
			Jan.	Feb.	Mch.	Apl.
Hocking	67	20	3	3	9	13
Holmes	35	11	4	5	1	3
Huron	56	17	3	2	4	3
Jackson	87	25	7	11	6	9
Jefferson	371	105	35	27	35	33
Knox	59	18	11	2	5	3
Lake	58	17	5	3	3	2
Lawrence	157	46	6	15	19	15
Licking	121	35	8	7	11	11
Logan	48	14	6	4	2	4
Lorain	305	89	18	22	20	18
Lucas	895	265	59	58	62	49
Madison	52	16	3	2	6	2
Mahoning	867	254	66	65	92	81
Marion	101	29	5	10	13	9
Medina	50	15	7	2	4	2
Meigs	46	14	3	8	8	4
Mercer	56	17	5	7	7	5
Miami	76	23	11	10	8	2
Monroe	37	11	2	1	4	5
Montgomery	486	142	39	39	40	34
Morgan	20	6	1	3	1	0
Morrow	29	9	1	2	1	2
Muskingum	137	40	8	10	16	10
Noble	72	21	5	4	2	4
Ottawa	47	14	5	5	4	12
Paulding	42	12	2	5	5	3
Perry	85	26	4	4	11	7
Pickaway	72	22	4	4	11	7
Pike	43	12	2	6	3	4
Portage	76	22	4	5	9	4
Preble	27	8	3	3	3	2
Putnam	60	18	8	8	5	6
Richland	103	30	9	7	7	10
Ross	105	30	7	8	10	7
Sandusky	74	22	3	7	7	7
Scioto	251	75	19	38	29	26
Seneca	74	22	7	6	6	7
Shelby	66	19	4	8	5	3
Stark	422	123	47	25	27	32
Summit	787	230	61	63	78	72
Trumbull	226	66	12	11	19	20
Tuscarawas	141	41	16	8	10	9
Union	43	13	4	2	2	4
Van Wert	45	14	3	2	4	5
Vinton	31	9	1	3	4	5
Warren	53	16	3	4	3	3
Washington	98	29	5	5	13	20
Wayne	72	22	4	7	4	7
Williams	40	12	4	1	8	6
Wood	104	30	10	12	11	5
Wyandot	29	9	4	4	4	1

Recently Adopted Regulations of the State Department of Health

REGULATIONS FOR THE TRANSPORTATION OF THE DEAD

RULE 1. A transit permit and transit label issued by the proper health authorities shall be required for each dead body transported by common carrier.

The transit permit shall state the name, sex, color and age of the deceased, the cause and date of death, the initial and terminal points, the date and route of shipment, a statement as to the method of preparation of the body, the date of issuance, the signature of the undertaker, the signature and official title of the officer issuing the permit.

The transit label shall state the place and date of death, the name of the deceased, the name of the escort or consignee, the initial and terminal points, the date of issuance, and the signature and official title of the officer issuing the permit and shall be attached to the outside case.

RULE 2. The transportation of bodies dead of smallpox, plague, Asiatic cholera, typhus fever, diphtheria (membranous croup, diphtheritic sore throat), scarlet fever (scarlet rash, scarlatina), shall be permitted only under the following conditions:

The body shall be thoroughly embalmed with an approved disinfectant fluid by an embalmer licensed in the State of Ohio, all orifices shall be closed with absorbent cotton, the body shall be washed with the disinfectant fluid, enveloped in a sheet saturated with the same, and placed at once in the coffin or casket which shall be immediately closed, and the coffin or casket, or the outside case containing the same shall be metal or metal lined, and hermetically and permanently sealed.

This regulation, as amended, shall take effect and be in force on and after March 1, 1918.

RULE 3. The transportation of bodies dead of any diseases other than those mentioned in Rule 2, shall be permitted under the following conditions:

(A) When the destination can be reached within twenty-four hours after death the body, if embalmed by an embalmer licensed in the State of Ohio, shall be placed in a casket or coffin, and encased in an outside case of substantial construction. If not embalmed, the body shall be placed in a casket or coffin which shall be encased in a strong outer box made of good sound lumber not less than seven-eighths of an inch thick, all joints must be tongued and grooved, top and bottom, put on with cleats or cross pieces, all put securely together, and be tightly closed with white lead, asphalt varnish or paraffin paint, and a rubber gasket placed on the upper edge between the lid and box.

(B) When the destination cannot be reached within twenty-four hours after death, the body shall be thoroughly embalmed and the coffin or casket placed in an outside case of substantial construction.

This regulation, as amended, shall take effect and be in force on and after March 1, 1918.

RULE 4. No disinterred body dead from any disease or cause shall be transported by common carrier unless approved by the health authorities having jurisdiction at the place of disinterment, and transit permit and transit label shall be required as provided in Rule 1.

The disinterment and transportation of bodies dead of diseases mentioned in Rule 2 shall not be allowed except by special permission of the health authorities at both places of disinterment and the point of destination.

All disinterred remains shall be enclosed in metal or metal-lined boxes and hermetically sealed, providing that bodies in a receiving vault when prepared by licensed embalmer shall not be regarded as disinterred bodies until after the expiration of thirty days.

RULE 5. The outside case may be omitted in all instances when the coffin or casket is transported in hearse or undertaker's wagon.

RULE 6. Every outside case shall bear at least four handles, and when over 5 feet 6 inches in length shall bear six handles.

RULE 7. An approved disinfectant fluid shall contain not less than 5 per cent. of formaldehyde gas. The term "embalming" as employed in these rules shall require the injection by licensed embalmers of not less than 10 per cent. of the body weight, injected arterially in addition to cavity injection, and twelve hours shall elapse between the time of embalming and the shipment of the body.

Adopted June 22, 1904.

Amended November 21, 1912; October 21, 1914; January 17, 1918.

Filed with the Secretary of State February 15, 1918.

Attest: JAMES E. BAUMAN,

Secretary Public Health Council.

REGULATIONS FOR THE PREVENTION OF VENEREAL DISEASES

RULE 1. *Definition.*—The Public Health Council of the State of Ohio hereby declares the following diseases, i. e. syphilis, gonorrhea, and chancroid, hereinafter designated venereal diseases, to be contagious, infectious, communicable, and dangerous to the public health.

RULE 2. *Reports.*—Any physician, dentist, or other person who makes a diagnosis in, or treats a case known to be, or reasonably suspected to be a venereal disease and every superintendent or manager of a public or private hospital, dispensary, charitable, benevolent or penal institution, in which there is a known or suspected case of venereal disease, shall report such case in writing on the form prescribed by the State Commissioner of Health, within twenty-four hours. Such report shall state the name, address, age, sex, color, and occupation of the diseased person, the date of onset of the disease and the probable source of infection if the same by reasonable diligence can be ascertained, and shall be enclosed in a sealed envelope and sent to the State Commissioner of Health.

RULE 3. *Instructions to Patients.*—Every physician, dentist, or other person who examines or treats a person having a venereal disease, shall instruct him or her in measures for preventing the spread of such disease and the necessity for treatment until cured, and shall furnish him or her such information relating to said disease as shall be provided for this purpose by the State Department of Health.

RULE 4. *Investigation of Cases.*—City, village and township health officers shall use every available means to ascertain the existence of, and to investigate all cases of venereal diseases within their several jurisdictions, and to ascertain the sources of such infection.

RULE 5. *Examination of Cases; Enforcement.*—City, village and township health officers are hereby empowered and directed to make, or cause to be made, such examinations of persons reasonably suspected of having a venereal disease, as may be necessary for carrying out these regulations. Such examinations shall be made only by regularly licensed physicians. All known prostitutes and persons associating with them shall be considered as reasonably suspected of having a venereal disease. Boards of health and health officers shall co-operate with the proper officials whose duty it is enforce laws against prostitution and shall otherwise use every proper means for the repression of prostitution, which is hereby declared to be a prolific source of venereal disease.

RULE 6. *Quarantine of Diseased Persons.*—The health officer, when directed by the State Commissioner of Health, shall immediately institute measures for the protection of other persons from infection by any venereally diseased person and shall quarantine any person who has, or is reasonably suspected of having a venereal disease, whenever in the opinion of the State Commissioner of Health, quarantine is necessary for the protection of the public health. In establishing quarantine, the health officer shall designate and define the limits of the

area in which the person known to have, or reasonably suspected of having a venereal disease is to be quarantined and no person other than the attending physician, dentist or necessary attendant shall enter or leave the area of quarantine without the permission of the health officer.

RULE 7. *Exposure of Another Person.*—No person knowing himself or herself to be infected with a venereal disease shall expose another person to infection with such venereal disease.

RULE 8. *Certificates.*—No physician shall issue a certificate to any person stating that such person is free from any venereal disease except after careful clinical and laboratory examination and unless such physician shall first have satisfied himself or herself that such certificate is not intended to be used for solicitation for sexual intercourse.

RULE 9. *Secrecy of Reports and Records.*—Reports and records of cases of venereal diseases shall be so kept as to be inaccessible to the public and shall not be produced or made public unless under proper order of a court of competent jurisdiction. No person who shall have or who shall gain access to such reports or records shall divulge any information or facts therein contained.

RULE 10. *Interpretation.*—Should any of the foregoing regulations for the prevention of venereal diseases or any part of such regulations be decided by any court to be unconstitutional or invalid the same shall not affect the validity of said regulations as a whole or any part thereof other than the part so decided to be unconstitutional or invalid.

RULE 11. *Penalty.*—Whoever is guilty of a violation of these regulations shall be punished as provided by law.

The foregoing regulations for the prevention of venereal diseases (Rules 1-11 inclusive) shall take effect and be in force on and after July 1, 1918.

Adopted by the Public Health Council of the State Department of Health May 2, 1918.

Filed with the Secretary of State June 20, 1918.

ATTEST: JAMES E. BAUMAN,
Secretary Public Health Council.

REGULATIONS FOR THE PREVENTION AND CONTROL OF WHOOPING COUGH

RULE 1. *Notification.*—Any person in attendance on a case of whooping cough, shall report the case immediately to the local health officer, using the prescribed form for that purpose, unless with the approval of the State Commissioner of Health the local board of health, or health officer performing the duties of a board of health, has provided for a system of telephone reports.

When no physician is in attendance, it shall be the duty of the head of the family, or the keeper of any hotel, boarding house, lodging house or the superintendent or person in charge of a public or private children's home, orphanage or school to report to the local health officer in the most expeditious manner possible the occurrence of a case of whooping cough or a case suspected of being whooping cough, occurring in such family, hotel, boarding house, lodging house, children's home, orphanage or school. Where a verbal report is made, the local health officer shall make out a case report on the prescribed form giving all the information therein required.

RULE 2. *Investigation of Unreported Case.*—It shall be the duty of the local health officer to immediately investigate any report or rumor of the existence of a case of whooping cough or suspected whooping cough in any house or place within his jurisdiction.

RULE 3. *Quarantine Placard.*—When a case of whooping cough is reported it shall be the duty of the local health officer, in person or by deputy, to immediately place a quarantine card at the main entrance of the house, apartment or suite of rooms in which the case exists, and to leave with the head of the family or other responsible person written or printed instructions for the government of the patient and other members of the household. Such card shall have

printed on it in large letters the words "WHOOPIING COUGH WITHIN. All Persons Who Have Not Had Whooping Cough Are Forbidden To Enter." This card shall remain in place until removed by the health officer.

RULE 4. Isolation of Patient.—The person who has whooping cough shall be isolated for at least four weeks from the beginning of the cough. Isolation shall consist of confinement to the house, rooms or apartment, except that the patient may be permitted to go into the street when under the observation of a responsible person, provided the patient does not come within five feet of any child under 15 years of age and is provided with and wears in plain view around the upper left arm a band on which there shall be the words "Whooping Cough" printed in letters not less than one-half inch in height.

RULE 5. Quarantine of Non-immunes.—Children in a family in which there is a case of whooping cough, if they have not had the disease, are prohibited from going to school, Sunday-school or attending public gatherings. Children in the family who have had whooping cough may be permitted to attend school and public gatherings at the discretion of the local health officer. Children who have been exposed to whooping cough and have not had the disease shall be quarantined for a period of fourteen days from date of last exposure; provided such child or children shall not necessarily be confined to the house if kept under supervision by a competent physician.

RULE 6. Exposing Child in Public Place.—No parent or other person having charge of or being responsible for a child having whooping cough or a non-immune child who has been exposed to whooping cough, shall permit such child to attend school or to mingle with other children or permit such child to enter a street car, school wagon, bus or other public conveyance.

RULE 7. Penalty.—Whoever is guilty of a violation of these regulations shall be punished as provided by law.

The above regulations for the prevention and control of whooping cough (Rules 1-7 inclusive) shall take effect and be in force on and after July 1, 1918.

Adopted by the Public Health Council of the State Department of Health, May 29, 1918.

Filed with the Secretary of State, June 20, 1918.

ATTEST: JAMES E. BAUMAN,

Secretary Public Health Council.

NURSES OF COUNTRY MEET IN CLEVELAND

Nearly 1,500 nurses from Ohio and other states attended the joint convention of the American Nurses' Association, the National Organization for Public Health Nursing, the National League for Nursing Education and the Ohio State State Nurses' Association in Cleveland, May 6 to 11.

War topics occupied most of the discussion. Encouragement was given to the efforts of the Red Cross to enroll nurses for war service. A service flag honoring 11,000 American nurses was dedicated.

Miss Helena R. Stewart, direc-

tor of public health nursing service in the Ohio State Department of Health, was chosen second vice president of the National Organization for Public Health Nursing. Other officers elected by this organization are: Honorary president, Lillian D. Wald, New York; president, Mary Beard, New York; first vice president, Katherine Tucker, Philadelphia; secretary, Maud Reeder, Dubuque, Ia.; treasurer, Samuel Sloan Colt, New York; executive secretary, Ella Phillips Crandall, New York; associate secretary, Mary E. Lent, New York; educational secretary, Mrs. Bessie A. Haasis, New York; publicity secretary, Helen F. Boyd, New York.

Publications of the State Department of Health

SPECIAL REPORTS

Collection and Disposal of City Wastes in Ohio—1910.
Flood Report—1913.
Industrial Health Hazards and Occupational Diseases in Ohio.

Report on Water Supplies on the Ohio River.
Water and Sewage Purification in Ohio.

PAMPHLETS, LEAFLETS, AND REPRINTS

Acute Poliomyelitis: With Special Reference to the Disease in Ohio—Boudreau, Brain and McCampbell, *Mo. Bu.*, March, 1914.

A Collection of Aphorisms on Industrial Hygiene and Occupational Diseases. Suitable for Exhibit Displays.

A Constructive Program for Housing Reform—Chadsy, *Mo. Bu.*, March, 1913.

Address of the State Inspector of Plumbing—Groeniger, *Mo. Bu.*, June, 1912.

Advantages of the Use of Lime in Water Purification—Hoover and Scott, *Mo. Bu.*, December, 1914.

A Few Dont's for Plumbers—*Mo. Bu.*, March, 1914.

An Ideal Organization of City Health Agencies—Landis, *Mo. Bu.*, April, 1914.

An Outbreak of Typhoid Fever Due to Contamination of the Water Supply Through a Private Connection—Dittoe and Boudreau, *Mo. Bu.*, July, 1914.

Are You in Business for Your Health?—4 p. leaflet.

A Summary of Occupational Diseases and Diseases Partly Occupational Reported to the State Board of Health in the First Six Months of the Year 1915 in Accordance with Section 1234-1-3 (O. L. 103, 1913), and According to U. S. Census Symbols.

A Survey of the Hygiene of Mixing Chemicals, etc.

A Survey of the Hygiene of Storage Batteries, etc.

A Survey of the Hygiene of Enameling, etc.

A Survey of the Industrial Hygiene of Furnacing, etc.

A Survey of the Industrial Hygiene of Laundry Listing, Sorting, etc.

A Survey of the Industrial Hygiene of Machine Shopping, etc.

A Survey of the Industrial Hygiene of Pottery, Slip-making, etc.

A Survey of the Industrial Hygiene of Printing, Composing Room, etc.

A Survey of the Industrial Hygiene of Pickling, Galvanizing, etc.

A Survey of the Industrial Hygiene of Rubber-Calendering, etc.

A Survey of the Industrial Hygiene of Rubber—Specialty Making, etc.

Cause and Prevention of Furunculosis and Wound Infections Among Machinists—O. P. H. J., April, 1918—(8 pp.).

Certain Foods and Their Relation to Disease—Koehne, O. P. H. J., April, 1915.

Certificate for Readmission to School (sample blank form).

Certificate of Birth (facsimile of official certificate of birth).

Certificate of Industrial Diseases (blank form).

Collection and Disposal of Municipal Wastes—Osborn, *Mo. Bu.*, September, 1912.

Compulsory Notification of Tuberculosis—Ford, *Mo. Bu.*, April, 1911.

Consumption and Preventable Deaths in American Occupations.

Critical Examination of One Hundred Painters for Evidences of Lead Poisoning.

Danger of Polluting the Public Water Supply by an Industrial Connection—Van Buskirk, O. P. H. J., March, 1915.

Dangers from Bacilli Carriers—Tate, *Mo. Bu.*, August, 1911.

Deterioration of Public Water Supply and Sewerage Improvements—Van Buskirk, *Mo. Bu.*, March, 1913.

Diphtheria and Membranous Croup; Their Restriction and Prevention (8 p. pamphlet), 1913, 8th ed.

Diphtheria: With Special Reference to the Bacteriology of this Disease—Berry, *Mo. Bu.*, January, 1914.

Diseases Notifiable in Ohio; Regulations Governing Reports.

Disinfection and Disinfectants (8 p. pamphlet).

Disposal of Wastes from the Dairy Industry—Kimberley, *O. P. H. J.*, July, 1914.

Domestic Sanitary Engineering (31 p. pamphlet).

Employment Health Data (blank form).

Foot Strain—An Occupational Disease Among Nurses—Osmond, *O. P. H. J.*, Oct., 1915.

Four Cases of Sudden Death in a Silo.

Gasoline Engine Exhaust Gas Poisoning.

Health Improvements Needed in Ohio—Sutton, *O. P. H. J.*, Feb., 1915.

Health of Children in Institutions—Boudreau, *O. P. H. J.*, Dec., 1917.

Health Warning to Motorists and Garage Workers.

How a Health Officer Can Be More Useful to His Community—Van Buskirk, *O. P. H. J.*, Dec., 1915.

How Any Boy Can Develop His Health and Strength (8 pp.).

How Shall We Combat Measles and Whooping Cough?—*Mo. Bu.*, May, 1911.

How Shall We Discover and Deal with Typhoid Carriers?—Landis, *Mo. Bu.*, Nov., 1911.

How Shall We Guard Against Bacillus Carriers?—Welch, *Mo. Bu.*, March, 1911.

How the Rural Health Officer Can be of Assistance to a City Health Department—Landis, *Mo. Bu.*, Dec., 1914.

How to Avoid Consumption (6 pp.).

How to Control Nuisances Arising from Offensive Trades—Dittoe, *Mo. Bu.*, Oct., 1911.

Hygienic Factory Construction—Russ, *Mo. Bu.*, Jan. and Feb., 1912.

Industrial Poisons.

Immunity and Susceptibility—McC Campbell, *O. P. H. J.*, March-May, 1915.

Important Facts About Common Transmissible Diseases (28 p. pamphlet).

Instructing Your Child in the Facts of Sex (12 pp.).

Instructions for Patients (8 pp.).

Instructions to Employes in Dusty Trades (1 p. leaflet).

Is Physical Supervision in the Public Schools Justifiable? (4 p. leaflet).

Laws of Ohio Relating to Occupational Diseases and Industrial Hygiene.

Laws of Ohio Relating to the Control of Tuberculosis.

Lead Poisoning—Its Chief Causes With Observations on Its Diagnosis and Prevention.

Legal Powers of Boards of Health—Bauman, *Mo. Bu.*, Nov., 1912.

Legal Procedures a Nurse Should Know—Bauman, *Mo. Bu.*, June, 1915.

Legislation and Prescribed Procedure for Enforcing Correction of Stream Pollution and Improvement of Public Water Supplies, *O. P. H. J.*, Sept.-Oct., 1916.

Limitations of Prevention of Communicable Diseases—Frederick, *O. P. H. J.*, June, 1915.

Location of Distributing Stations (4 p. leaflet).

Machinists, Avoid Boils and Infections (1 p.).

Market Milk—Boudreau, *Mo. Bu.*, Aug., 1914.

Maternity Hospitals and Infant Boarding Homes—Hollingshead, *O. P. H. J.*, Nov., 1916.

Maternity Hospitals as a Rural Need—Hollingshead, *O. P. H. J.*, April, 1918—(4 pp.).

Measles in Ohio—Boudreau, *O. P. H. J.*, Jan., 1917.

Medical Education in Hygiene and Public Health—McC Campbell, *Mo. Bu.*, Nov., 1914.

Medical Inspection—Patterson, *Mo. Bu.*, June, 1911.

Methods and Channels of Infection—McC Campbell, *O. P. H. J.*, Jan.-Feb., 1915.

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Orders and Regulations for Villages and Townships — *Bauman, Mo. Bu., Aug., 1914.*

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Sociological Aspects of Recent Reorganization of Health Departments — Bishop, *Mo. Bu.*, March, 1914.

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What May Be Done During Fall and Winter to Promote Child Hygiene—Hollingshead, *O. P. H. J.*, Dec., 1915.

Your Baby's Eyes—How to Save Them (4 p. leaflet, 3rd ed., 1918).

Carelessness Displayed in Mailing Bacteriological Specimens

SO many Ohio physicians have been displaying disregard for the postal regulations in the manner in which they prepare bacteriological specimens for mailing to the laboratories of the State Department of Health that the Department has felt it necessary to issue a warning to these offenders.

The postoffice department prescribes in great detail the kinds of containers which must be used for mailing such specimens. The containers required are such as would be used, it would seem, by anyone with an ordinary regard for the rights of the postal employees and

others who must handle the packages. Moreover, a maximum penalty of \$1,000 fine and two years' imprisonment is provided for violators.

Despite these moral and legal incentives to compliance with the regulations, however, nearly every mail brings in packages which do not meet the requirements. A specimen of tuberculosis sputum, for instance, came in recently folded in a scrap of paper and inclosed in a letter. Another sputum specimen was sent in in a sputum cup, loosely wrapped. Heads of dogs suspected of rabies

infection have arrived carelessly tied up in paper.

Postoffice employees, clerks in this Department, laboratory assistants—all persons in short, who have occasion to handle material mailed in this manner—are subjected to grave danger, and nobody should know this better than the physicians who are guilty of such negligence.

If senders of these specimens would only use the containers provided free by the Department, all trouble would be avoided, for these outfits, available at distributing stations throughout the state, comply fully with the postal regulations and the demands of safety.

The postal regulations declare all infectious material non-mailable, except when prepared in accordance with rules which the postmaster general is empowered to make, and provide the penalty mentioned for violations. The regulations which the postmaster general has promulgated under this section are as follows:

POSTAL LAWS AND REGULATIONS.

Sec. 473. Specimens of diseased tissues may be admitted to the mail for transmission to the United States, state, municipal or other laboratories in possession of permits referred to in paragraph 3 of this section only when inclosed in mailing cases constructed in accordance with this regulation, provided that bacteriologic and pathologic specimens of plague and cholera shall under no circumstances be admitted to the mails.

2. Liquid cultures, or cultures of micro-organisms in media that are fluid at the ordinary temperature, (below 45° C. or 113° F.) are unavailable. Such specimens may be sent in media that remain solid at ordinary temperatures.

3. No package containing diseased tissue shall be delivered to any representative of any of said laboratories until a permit shall have first been issued by the Postmaster General, certifying

that said institution has been found to be entitled, in accordance with the requirements of this regulation, to receive such specimens.

4. (a) Specimens of tubercular sputum (whether disinfected with carbolic acid or not disinfected) shall be transmitted in a solid glass vial with a mouth not less than one inch in diameter and capacity of not less than two ounces, closed by a cork stopper or by a metallic screw top protected by a rubber or felt washer. Specimens of diphtheria, typhoid, or other infectious or communicable diseases or diseased tissues, shall be placed in a test tube made of tough glass, not over three-fourths of an inch in diameter and not over 7½ inches in length, closed with a stopper of rubber or cotton and sealed with paraffin or covered with a tightly fitting rubber cap.

(b) The glass vial or test tube shall then be placed in a cylindrical tin box, with soldered joints, closed by a metal screw cover with a rubber or felt washer. The vial or test tube in this tin box shall be completely and evenly surrounded by absorbent cotton closely packed.

(c) The tin box with its contents must then be inclosed in a closely fitting metal, wooden, or papier-mache block or tube, at least three-sixteenths of an inch thick in its thinnest part, of sufficient strength to resist rough handling and to support the weight of the mails piled in bags. This last tube shall be tightly closed with a screw top cover with sufficient screw threads to require at least one and one-half full turns before it will come off, and fitted with a felt or rubber washer.

5. Specimens of blood dried on glass microscopic slides for the diagnosis of malaria or typhoid fever by the Widal test may be sent in any strong mailing case which is not liable to breakage or loss of the specimen in transit.

6. Upon the outside of every package of diseased tissues admitted to the mails shall be written or printed the words, "Specimen for bacteriological examination. This package to be pouched with letter mail."

Under Paragraph 3 of the foregoing section a permit has been issued to the laboratories of the State Department of Health "to receive by mail specimens of diseased tissue and micro-organisms."

Public Health Nursing Service

Report For April, 1918

City.	Home Visits.	Other Visits.	Number of Patients Under Care.	Number of Nurses Employed.
<i>Population 100,000 and over —</i>				
Cincinnati (Anti-Tuberculosis League)	902	.....	1,128	7
Columbus (Anti-Tuberculosis League)	730	180	1,003	4
Columbus (V. N. A.)	2,315	.....	650	11
Toledo	6,166	114	4,669	22
Youngstown .....	.....	8	470	10
<i>Population 25,000 to 100,000 —</i>				
Canton	630	.....	90	3
Lima	600	26	106	2
Lorain	231	.....	53	1
Portsmouth	495	95	389	3
Zanesville (Welfare Organization)	94	7	75	1
Zanesville (Fed. of Women's Clubs)	121	14	28	1
<i>Population 8,000 to 25,000 —</i>				
Ashtabula	90	100	52	1
Bellefontaine .....	.....	49	48	1
Cambridge	170	70	39	1
Delaware	218	10	27	1
Elyria	112	32	45	1
Lancaster	120	38	34	1
Mansfield .....	.....	31	62	2
Marietta	122	29	25	1
Marion	181	31	60	1
Massillon	333	44	76	1
Piqua	90	20	35	1
Xenia	55	42	14	1
<i>Population 5,000 to 8,000 —</i>				
Ashland	91	20	15	1
Circleville	180	24	62	1
Norwalk	94	79	.....	1
Ravenna	204	34	46	1
Urbana	98	9	21	1
<i>Population 2,500 to 5,000 —</i>				
Bryan	85	88	53	1
Cuyahoga Falls	61	19	.....	1
Greenfield	69	16	24	1
Shelby	158	22	41	1
<i>Counties —</i>				
Hamilton	62	47	187	1
Lake	29	32	16	1
Licking	22	32	23	1
Trumbull .....	.....	72	138	1
Tuscarawas	39	172	62	1
Total	14,967	1,606	9,865	92

The 9,865 patients under care were grouped as follows, according to the nature of their cases:

Communicable Diseases —	
Tuberculosis	4,170
All Others	68
Maternity —	
Prenatal	144
Postnatal	210
Infants under two years — except eye	3,013
Eye —	
Infant under two years	32
All others	46
Other Diseases —	
Medical	1,513
Surgical	617
Social Service	52
Total	9,865

Typhoid Fever Outbreak Due to Contamination of Carelessly Constructed Well

A TYPICAL rural typhoid fever outbreak, which illustrates the serious results that may follow carelessness in the construction of wells and in the disposal of wastes was recently investigated by representatives of the State Department of Health at Bryn Mawr subdivision, Coitsville Township, Mahoning County.

In this suburban hamlet of eighteen houses, located about one and one-half miles east of the Youngstown city limits, there occurred during May twenty cases of typhoid fever. An earlier case had been reported March 31, and the first May case was reported from the same household May 6. Twelve of the total of twenty-one cases were from three families, living in adjoining houses, all of whom used water from a common well, located on the premises where the March patient had been treated. This well, it was found upon investigation, had also been used intermittently by members of all other households affected.

The well in question was a dug well, cased in concrete to a depth of fifteen feet and covered with a

concrete slab. The important point noted was that through the concrete slab, directly beneath the spigot of the pump, there was a six-inch opening, which, the owner explained, was to allow excess water to flow back into the well, providing for conservation of water in dry weather. Five separate ten cubic centimeter samples of water taken from the well about May 25 showed the presence of *B. coli*.

With these facts ascertained it was easy to trace the connection between the one March case and those which followed in May. Utensils used by the sick man had been rinsed at the pump and the waste water drained into the well through the hole in the top, infecting the water which was used by nearly all the later patients. Two of the later cases were attributed to contact, other members of the same families having previously been infected by the contaminated water. It is considered probable that contact infection may have been a supplementary factor in some of the other cases.

DEPARTMENTAL REPORTS BY DIVISIONS

DIVISION OF COMMUNICABLE DISEASES

Reported Cases of Notifiable Diseases, May, 1918

Prevalence.— In order of greatest reported prevalence for May, the diseases list as follows, with comparative figures for April:

<i>Disease.</i>	REPORTED CASES.	
	<i>May.</i>	<i>April.</i>
1. Measles	2,596	2,354
2. Measles, German	1,525	2,235
3. Whooping cough	1,271	915
4. Smallpox	1,161	1,200
5. Mumps	939	1,034
6. Scarlet fever	647	1,126
7. Chickenpox	623	410
8. Tuberculosis	596	581
9. Gonorrhea	355	78
10. Diphtheria	308	376
11. Pneumonia	228	551
12. Syphilis	146	52
13. Ophthalmia neonatorum	134	112
14. Typhoid fever	111	104

For no other notifiable disease was a total of 50 or more cases recorded for May. Whooping cough is indicated to be on the increase, changing from fifth place in April to third for May, Smallpox still hovers around the high total of 1,200 cases which prevailed in April.

Smallpox.— Very few new epidemic centers were noted in May. The continued high prevalence of the disease is the result of communities failing to take advantage of vaccination in spite of knowledge of the excessive prevalence of smallpox. The highest county totals for May follow: Cuyahoga 167 cases, Summit 96, Butler 73, Scioto 58, Columbian 54. Hamilton and Portage 48 each, and Brown and Crawford 43 each.

Typhoid Fever.— Health officers are again urged to make special efforts to secure complete reports of cases of typhoid fever. The continued low totals, 111 cases for May, 104 for April, are gratifying but there can be no definite feeling of gratification until there is assurance that health officers are exerting themselves to obtain all reports. Mahoning County is credited with 28 of the reported cases for May, 20 being due to an epidemic in Coitsville Township from the use of one polluted well. From Lucas County seven cases were reported, from Scioto six and from Cuyahoga five cases, no other one county reporting more than three cases for the month.

Meningitis, Cerebrospinal. — The 18 cases reported for May were distributed as follows: Cleveland 5, Chillicothe, Cincinnati and Dayton two each; Defiance, Mt. Vernon, Piqua, Steubenville and Youngstown cities one each; New Boston village one, and Pleasant Township, Henry County one case.

Poliomyelitis. — The six cases were reported from the following six districts: Akron, Cleveland, Toledo and Portsmouth cities; Kingsville Township, Ashtabula County and Muskingum Township, Washington County.

TABLE 1. REPORTED CASES OF NOTIFIABLE DISEASES, OHIO, MAY, 1916-1918, WITH DISTRIBUTION FOR CITIES AND FOR VILLAGES AND TOWNSHIPS MAY, 1918, AND CASE RATES PER 1000 POPULATION, MAY, 1916-1918.

Notifiable Diseases.	May, 1918.			May, 1917.	May, 1916.	May Case Rates Per 1000 Popu- lation.		
	Cities.	Villages and Townships.	Total.*			1918.	1917.	1916.
All Notifiable Diseases	5,850	3,930	10,725*	10,884	14,241	2.038	2.090	2.763
Chickenpox	423	199	623	582	500	.118	.112	.097
Diphtheria	231	171	308	600	414	.059	.115	.080
Gonorrhea	71	23	355	116	109	.067	.022	.021
Measles	1,345	1,194	2,596	4,510	9,638	.493	.866	1.870
Measles, German	671	854	1,525	786	119	.290	.151	.023
Meningitis, Cerebro- spinal	15	2	18	114	17	.003	.022	.003
Mumps	319	540	939	353	299	.178	.068	.058
Ophthalmia Neona- torum	127	7	134	136	101	.025	.026	.020
Pneumonia, Acute Lo- bar	144	55	228	323	261	.043	.062	.051
Poliomyelitis	4	2	6	20	2	.001	.004	.001
Scarlet Fever	353	271	647	1,147	624	.123	.220	.121
Smallpox	569	90	1,161	516	232	.221	.099	.005
Syphilis	47	20	146	72	76	.023	.014	.005
Trachoma	18	1	19	28	13	.003	.005	.002
Tuberculosis, All Forms	530	61	596	630	579	.113	.121	.112
Typhoid Fever	45	66	111	173	178	.021	.033	.035
Whooping Cough	923	348	1,271	737	1,043	.241	.142	.202
Other Notifiable Dis- eases	15	27	42	41	36	.008	.008	.007

* Reported cases from Camp Sherman and Wright Aviation Field included in total figures.

TABLE II. REPORTED CASES, TEN NOTIFIABLE DISEASES, WITH TOTAL CASE RATES PER 1,000 POPULATION, OHIO CITIES, MAY, 1918.

City.	Total Case Rate Per 1,000 Pop.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis Cerebro-spinal.	Pneumonia, Acute Lobar.	Poliomyelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
Total	1,497	4,159	231	1,345	15	144	4	353	569	530	45	923
Akron	2,838	258	21	58			1	53	69	36	1	19
Alliance	700	14	1	7				2	3		1	
Ashland*												
Ashtabula .....	.090	2							1	1		
Athens	2,010	15		5		1		3		1		3
Barberton	1,898	26	6	1					19			
Bellaire	1,197	19		15				3			1	
Bellefontaine	6,405	61		42		5				2	1	13
Bellevue .....	.978	6				1				2		3
Bowling Green*												
Bucyrus	3,392	32	1	11					20			
Cambridge .....	.284	4	1	2		1						
Canton .....	.315	21	1	1		1		5	9	4		
Chillicothe	2,772	44	7	8	1			14	4	2		8
Cincinnati	1,720	860	66	313	2	2		27	42	132	2	274
Circleville	1,322	9		9								
Cleveland	1,139	1,139	52	362	5	92	1	33	131	192	5	266
Columbus	1,100	275	6	90				81	17	19	2	60
Conneaut	2,461	23	1	13				7	1			1
Coshocton*												
Dayton .....	.441	63	6	12	2	6		9	8	17	1	2
Defiance	2,040	15		1	1	3			6	3	1	
Delaware	2,900	29							27	2		
Delphos .....	.183	1				1						
Dover .....	.524	4	2					1	1			
East Cleveland	2,070	30	3	5				3		1		18
East Liverpool .....	.946	22	1	1				12	7	1		
Elyria	1,400	28	4	7					8			9
Findlay .....	.536	8	2			1		3		2		
Fostoria .....	.180	2		1		1						
Fremont	2,277	23		5		3		3	2	1	1	8
Galion .....	.695	5						1	3	1		
Gallipolis*												
Greenville .....	.146	1								1		
Hamilton	1,760	80		28				1	46	5		
Ironton*												
Jackson .....	.489	3								2	1	
Kenton*												
Lakewood	1,066	26	2	3		2		6	9	2		2
Lancaster	1,891	31		19				12				
Lima	1,080	36	3	7				5	19		1	1
Lorain .....	.700	28	5	3		1		1	8	2		8
Mansfield .....	.344	8	2			1				1		4
Marietta*												
Marion*												
Martins Ferry .....	.097	1	1									
Massillon .....	.576	9		6					1	1	1	
Middletown	2,501	41		17		2		1	19	1	1	

TABLE II. REPORTED CASES, TEN NOTIFIABLE DISEASES, WITH TOTAL CASE RATES PER 1,000 POPULATION, OHIO CITIES, MAY, 1918 — Concluded.

City.	Total Case Rate Per 1,000 Pop.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis Cerebro-spinal.	Pneumonia, Acute Lobar.	Poliomyelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
Mt. Vernon.....	.324	4	.....	.....	1	.....	.....	.....	.....	3	.....	.....
Nelsonville.....	2.265	15	.....	.....	.....	.....	.....	12	1	.....	.....	2
New Philadelphia...	4.370	46	1	33	.....	3	.....	4	3	1	1	.....
Newark.....	.384	12	.....	8	.....	.....	.....	2	1	.....	1	.....
Niles.....	.330	3	.....	1	.....	.....	.....	2	.....	.....	.....	.....
Norwalk.....	.585	5	.....	1	.....	.....	.....	.....	.....	.....	.....	4
Norwood.....	1.271	31	.....	9	.....	.....	.....	1	.....	2	.....	19
Painesville.....	.340	2	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
Piqua.....	.828	12	2	2	1	.....	.....	5	.....	2	.....	.....
Portsmouth.....	1.716	52	2	12	.....	1	1	3	28	1	3	1
Ravenna.....	2.028	13	.....	12	.....	.....	.....	1	.....	.....	.....	.....
St. Bernard.....	.316	2	.....	1	.....	.....	.....	1	.....	.....	.....	.....
St. Marys.....	.498	3	.....	.....	.....	.....	.....	.....	3	.....	.....	.....
Salem.....	2.475	25	.....	18	.....	.....	.....	7	.....	.....	.....	.....
Sandusky.....	.441	9	1	2	.....	1	.....	.....	1	3	.....	1
Sidney.....	.680	5	4	.....	.....	.....	.....	1	.....	.....	.....	.....
Springfield.....	1.938	102	4	37	.....	1	.....	2	1	10	1	46
Steubenville.....	.840	24	4	11	1	.....	.....	2	1	5	.....	.....
Tiffin.....	3.444	44	.....	.....	.....	.....	.....	.....	.....	1	.....	43
Toledo.....	1.040	208	10	32	.....	2	1	19	19	52	7	66
Troy*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Urbana.....	4.212	36	.....	28	.....	4	.....	.....	1	1	.....	2
Van Wert.....	.516	4	.....	3	.....	1	.....	.....	.....	.....	.....	.....
Wapakoneta*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warren.....	1.850	25	1	17	.....	.....	.....	.....	5	.....	1	1
Washington C. H. ....	.585	5	.....	.....	.....	.....	.....	.....	3	1	1	.....
Wellston.....	1.160	8	.....	.....	.....	.....	.....	.....	8	.....	.....	.....
Wellsville.....	.440	4	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wooster*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Xenia.....	.805	7	1	.....	.....	.....	.....	.....	6	.....	.....	.....
Youngstown.....	1.332	148	3	64	1	9	.....	6	5	13	8	39
Zanesville.....	.093	3	.....	.....	.....	.....	.....	.....	.....	1	2	.....

* Ashland, Bowling Green, Coshocton, Gallipolis, Kenton, Marietta, Troy and Wapakoneta reported no cases of the diseases listed during May, Alliance forwarded incomplete report for May and Ironton, Marion and Wooster failed to submit any report.

DIVISION OF PUBLIC HEALTH EDUCATION AND TUBERCULOSIS

Summary of Activities in May, 1918

Changes in Organization.—Miss Bertha A. Sells, public health nurse in the bureau of public health nursing, resigned May 31 on account of her approaching marriage.

Educational Work.—Literature totaling 9,675 pieces, on twenty-seven subjects, was distributed. Four lectures were delivered by representatives of the Division. Fifteen newspaper publicity stories were released, twelve of which were issued through the weekly News Letter and attained a story circulation (total number of printed copies of stories) of 1,789,285, or an average of 149,107 per story. Copy for three venereal disease pamphlets—"Some Things a Young Man Should Know About Sex and Sex Diseases," "How Any Boy Can Develop His Health and Strength" and "Instructing Your Child in the Facts of Sex"—and for a revised edition of the folder "Your Baby's Eyes: How to Save Them" was prepared for printing. Copy for the OHIO PUBLIC HEALTH JOURNAL, Volume IX, Number 5 (May, 1918), a special typhoid fever number, was prepared for the printer.

Public Health Nursing Service.—Miss Helena R. Stewart, director of the bureau of public health nursing, was elected second vice president of the National Organization for Public Health Nursing at the organization's meeting in Cleveland, May 6-11. The following nurses employed in local centers in the state resigned during the month: Miss Clara M. Dodds, Xenia; Miss Louise Isabel Hebson, Bryan, and Miss H. L. Dye, Marietta.

Prevention of Blindness.—One hundred and thirty cases of inflammation of the eyes of the newborn were reported. Instructions were given to health officers by telephone in two cases, ten cases were investigated by Department nurses and two cases were provided with nursing care.

Tuberculosis Hospitals.—The commissioners of Erie, Lorain, Ottawa and Sandusky counties agreed to appropriate \$125,000 for a district hospital. Proposed district hospital Number 7 was discussed at a public meeting in Bellaire and at a meeting of the Jefferson County commissioners. Lima and Springfield district hospitals were inspected. The fifteenth conference of Ohio Tuberculosis Hospital Superintendents was held in Columbus, May 14. Notifications of hospital admissions and discharges received during the month are summarized as follows:

Ohio State Sanatorium, admissions 54, discharges 48; Butler County Sanatorium, admissions 5, discharges 2; Franklin County Sanatorium, admissions 35, discharges 39; Lucas County Tuberculosis Hospital, admissions 29, discharges 16; Dayton District Hospital, admissions 28, discharges 9; Lima District Hospital, admissions 1, discharges 7; Springfield District Hospital, admissions 5, discharges 10; Springfield Lake Sanatorium, admissions 20, discharges 37; Rocky Glen Sanatorium, admissions 2, discharges 1; St. Anthony's Hospital, admissions 11, discharges 10. Total admissions 190, total discharges 179.

Total notifications 369, referred to local public health nurses 264, referred to health departments of other states 4, investigated by Divi-

sion nurses 33, unobtainable histories 29, pending investigation June 1, 39.

Pending investigation May 1, 56; investigated by Division nurses 32, referred to local public health nurses 3, returned by local public health nurses 7, net total pending cases from April, 28. Total cases pending June 1, 67.

Discharged Tuberculous Soldiers.—Notifications for May, with totals since the beginning of work in behalf of discharged soldiers, are summarized as follows:

	<i>Total to</i>	
	<i>May,</i>	<i>June 1.</i>
Notifications received	25	369
Referred to public health nurses.....	15	267
Reports from public health nurses.....	17	141
Cases written directly.....	9	101
Replies received	0	28
Cases visited by Division nurses.....	25	78
Cases admitted to hospitals.....	2	13
Cases not found.....	8	66
Cases not heard from.....	21	80

DIVISION OF SANITARY ENGINEERING

Summary of Activities in May, 1918

Investigations by the Division during May dealt with thirteen existing and six proposed water supplies and water purification systems, and with seven existing and fifteen proposed sewerage systems and sewage treatment plants. Three days were devoted to a study of sewage disposal at Camp Sherman. The pollution of the Mad River at Springfield and a typhoid fever epidemic in Coitsville Township, Mahoning County, were also the subjects of investigations.

Plans of proposed sewerage and sewage disposal improvements were received from East Palestine, Bethel Township, Miami County; Hills and Dales sewer district, Clark County; Standard Home Company, Masury, Trumbull County; Liberty Subdivision, West Park; Kidder Country Club, Montgomery County; Crawford Land Company Addition, West Park, and Highview, Mahoning County.

Water supply and water purification plans were received from Chagrin Falls, East Palestine, Ravenna, Wadsworth, Dennison and Alliance.

Seventeen conferences were held with city and school officials, engineers and other persons, regarding water and sewer systems.

Five certificates of approval of railroad water supplies were issued, to five railroad companies. Seven such certificates, requested by two railroad companies, were refused. The public water supplies of Lima, Newark and Zanesville were among the sources disapproved in these refusals.

DIVISION OF LABORATORIES

Summary of Activities in May, 1918

The Division made 1,814 examinations in May, of which 1,424 were bacteriological and 390 were chemical. The bacteriological examinations, with their results, were as follows:

Tuberculosis, pos. 114, neg. 378.....	492
Diphtheria, pos. 50, neg. 190, susp. 3, no growth 19.....	262
Typhoid, pos. 15, neg. 43.....	58
Wassermann, pos. 94, neg. 371, unsat. 5.....	470
Malaria, neg. 2.....	2
Rabies, pos. 10, neg. 7, susp. 3.....	22
Water	105
Miscellaneous	13

Outfits were distributed in the following quantities: Tuberculosis 821, diphtheria 254, typhoid 126, malaria 60, Wassermann 529, ophthalmia 3,823, water (chemical) 13, water (quarts) 6, water (bacteriological) 93, total 5,725.

The chemical samples examined included 103 specimens of foods and 30 of drugs. Results of the food examinations were: Satisfactory 42, misbranded 8, adulterated 18, insufficient information 35. The eight misbranded products were miscellaneous extracts and those found adulterated were: Milk 12, condensed milk 1, hamburg 2, vinegar 1, lemon extract 1, grape juice 1. Reports on the drugs were as follows: Satisfactory 15, misbranded none, adulterated 8, insufficient information 7. The adulterated drugs were: Tincture of iodine 6, spirits of camphor 1, miscellaneous drugs 1.

DIVISION OF INDUSTRIAL HYGIENE

Summary of Activities in May, 1918

There were reported during the month four cases of occupational diseases, including three cases of wood alcohol poisoning. The diagnoses were investigated in three instances. In addition, 189 cases of tuberculosis among industrial workers were included in physicians' reports during this time.

Assistance was given in the prevention of boils among machinists to a munition factory employing 800 people.

Complaints were investigated in regard to the dangers of poisoning by wood alcohol in several shoe factories. A number of other requests for advice in regard to the elimination of health hazards have also been taken care of.

Inquiry was made during the month of 58 shoe manufacturers in regard to the use of celluloid box toes, in connection with which several cases of wood alcohol poisoning have been reported.

Assistance has been given the Industrial Commission in determining the cause of death.

A number of abstracts of current industrial hygiene literature have been prepared and published in the *American Journal of Public Health*.

A number of miscellaneous conferences have been held and ten lectures and four examinations have been given in the local aviation school.

DIVISION OF PLUMBING

Summary of Activities in May, 1918

Seventy-nine investigations were made by the Division in May, in public, semi-public and private buildings of various kinds. Certificates of approval were issued for the town hall at Perrysburg, a store at Wauseon and schools in Erie County and at Empire. Six conferences were held and eight sets of plans were examined.

HEALTH OFFICERS' ROUNDTABLE

Vaccination Again!

The North Carolina state board of health in a recent bulletin notes the existence of 117 cases of small-pox in 31 counties in the state, and adds: "No cases are reported from Nash, Wilson or Northampton Counties. In Nash County there has been a county ordinance requiring vaccination of all school children since 1914. Similar ordinances have been recently passed in Wilson and Northampton Counties."

Fifty-Four Cents for Health

In the next six months the city of Akron is going to spend \$40,000 to safeguard the health of its citizens.

This is a large sum, compared to appropriations of two or three years ago, but it is very small when judged by the size of the community and the health problems peculiar to the city.

Spending \$80,000 a year for health purposes amounts to no more than 54 cents a person. In time we will learn that we can afford to spend much more than that.

One of the principal reasons we are not spending more now is the average person's inability to comprehend that the city's health work is of direct benefit to him, to his family and to his neighbors. He can understand the need for paying \$2 or more for a physician's call to his home but, frequently, begrudges the expenditure of 54

cents a year for municipal effort directed toward reducing the need of a physician's visit. — *Akron Times*.

Found — a New Excuse

Here at least is one excuse for failure to make reports which hasn't yet been tried by any health officer in Ohio: An Indiana county health commissioner sent word to the state board of health that the health officer of one of the towns in the county was in jail and therefore unable for the time being to send in his regular reports.

Venereal Quarantine Approved

Venereal disease quarantine regulations were recently upheld by a California court. One of several San Jose women who were quarantined because of venereal infection tried to obtain her release by habeas corpus proceedings. The court dismissed the case and remanded the woman to the custody of the health officer. Similar actions in San Diego and Los Angeles have brought the same result, says the California state board of health.

Springfield Health Report

Recommendations made in the annual report of Dr. E. B. Starr, Springfield health director, recently filed, include: Educational measures among the colored population to reduce the high negro death rate, regulation requiring the pla-

carding of lobar pneumonia, provision for laboratory diagnosis of pneumonia types, employment of an industrial hygiene specialist, establishment of a night clinic for venereal diseases and a milk pasteurization ordinance.

The negro population, numbering 10 percent of Springfield's total population, produced, in 1917, 25 percent of the tuberculosis deaths, 34.4 percent of the lobar pneumonia deaths, 23 percent of the typhoid fever deaths and 18.3 percent of the deaths of children under one year old.

The report called attention to Springfield's low diphtheria death rate — 11.9 per 100,000 population. Dr. Starr attributes this record to the employment of laboratory methods of diagnosis, the use of antitoxin and careful isolation of carriers.

"Them's Our Sentiments!"

Instead of saying "Yours truly," one Ohio health officer, whose correspondence the State Department of Health receives with interest, ends his letters with the words, "Damn the Kaiser!"

Making a Flyless Town

Campaigns for the killing of over-winter flies before they had time to lay their eggs and enforcement of regulations for cleaning up manure piles, the chief breeding places of flies, have made Cleveland practically a flyless city, according to an article by Dr. Jean Dawson, for five years in charge of the city's fly-prevention work, in the *Cleveland Plain Dealer*.

Bounties of ten cents per hundred flies have been paid to children for killing flies before a

definite date at the opening of the breeding season. The cash bounty is not paid after that date, as it is feared that the possibilities for profit might encourage some persons to allow flies to breed. One year prizes of shrubs and trees were given for flies killed during the breeding season, the idea being that children with enough civic pride to work for one of these rewards would not encourage the breeding of flies.

Failure to haul away manure for weeks and months was found to be characteristic of stable owners in all parts of the city. Investigation proved it impracticable to have manure hauled at city expense, and the value of the manure was found insufficient to pay private individuals for collecting it in any except the most congested districts.

Finally the scheme was devised of establishing one or more large boxes in each ward, to which stable owners must haul their manure once a week. These boxes are emptied by truck gardeners, who receive the manure in return for the hauling.

Inspection work to bring about the enforcement of the stable-cleaning regulation has been done by thirty girl students of the city normal school, receiving wages of \$7.50 a week.

You and the Newspapers

The following letter to the *Dayton News*, over which the editor, by way of reply, placed the headline "We're Glad to Help," illustrates two points in the relations of the health officer to the newspaper — the willingness of the average editor to co-operate in a worthy public welfare movement, and the duty of the health officer

to recognize such support when he receives it:

Editor The Daily News:

Dear Sir: The generous donation of space in your paper on behalf of the child welfare movement during the month of May was a marked factor in the success of this work.

One thousand two hundred and thirty Dayton babies were examined by the division of health, department of public welfare, and the Visiting Nurses' Association. This is certain to quicken interest in child conservation in this city, and should result in the saving of many lives.

On behalf of the above agencies I wish to thank you for your generous support in this campaign which marked the beginning in Dayton of the special child conservation movement which the government is promoting all over the country.

A. O. PETERS,

Com. of Health.

Health Officials Win Suit

Dr. A. L. Light, former health commissioner of Dayton, and Dr. A. O. Peters, present health commissioner, last month won a suit in which the plaintiff, William V. Nicum, asked \$5,000 damages, alleging that he had been unlawfully deprived of his liberty by the enforcement of quarantine regulations at his home. The jury rendered its verdict after fifteen minutes' consideration.

Health Plans for Schools

The social service bureau of the Columbus chamber of commerce has recommended the adoption in that city of a system of school medical supervision comprising the following features: Close co-operation with the city board of

health program, a full time physician in charge of the work, one full time assistant physician for each 1,200 high school pupils, one full time assistant physician for each 10,000 elementary pupils, one nurse for each 2,000 elementary pupils, adequate free dental clinics, free baths, more open air schools, a properly supervised lunch system at low cost and development of a psychological department.

WILL PROTECT WOMEN IN ORDNANCE PLANTS

A bureau to look after the health of women employees in munition factories, arsenals and other ordnance plants has been established by the ordnance department of the Army. Dr. Kristine Mann, director of the health clinic for industrial women in New York City, is in charge. Later she will have a corps of women assistants, who will serve as health officers in districts where there are ordnance plants. Efforts will be made to have women trained for these positions by special courses in colleges.

The rights of illegitimate children and the State's responsibility for seeing that every child, no matter what his parentage, has the nurture, protection, and education essential to his usefulness as a citizen are for the first time given complete national recognition in the Norwegian laws concerning illegitimate children, according to a report issued recently by the Children's Bureau of the United States Department of Labor. These laws make the state instead of the mother responsible for establishing paternity.

PUBLIC HEALTH NOTES FROM 'OVER THE STATE

Seven children died of whooping cough during the April and May epidemic in Tiffin.

* * *

Salem health authorities are enforcing regulations against the display of food products on sidewalks.

* * *

Rural inspection of Akron's milk supply has been proposed by Dr. C. T. Nesbitt, Akron health commissioner.

* * *

Ordinances against hog-raising are to be enforced in Piqua and Lancaster, according to recent announcements by the health authorities of those cities.

* * *

The recent campaign for funds to support public health nursing work in Ravenna brought in subscriptions totaling nearly \$1,400. The largest amount raised in previous campaigns was \$900.

* * *

Foreseeing the seeking of employment by former inmates of the Toledo segregated district, abolished by the Mayor May 1, the Toledo Housewives' League has taken action urging that health certificates be required of all persons now or hereafter employed as food handlers.

* * *

Expenditure of \$150,000 for a new contagion hospital is being considered by city authorities in Akron. It is probable that a bond issue for the purpose will be voted on by the people this year. Present hospital facilities in Akron are declared to be adequate for only

five percent of the city's contagious disease cases.

* * *

The city of Canton was forbidden, by a restraining order issued last month, to continue housing contagious disease patients in a house which has been used for that purpose recently. The applicants for the order maintained that continued use of the house would lessen the value of their residence property nearby and would endanger their health.

* * *

Quarters have been set aside at the Ross County infirmary for the detention and treatment of persons found infected with venereal diseases in the Camp Sherman extracantonment zone. Dr. Dana E. Robinson, United States Public Health Service surgeon in charge of sanitation in the zone, has announced a policy of strict enforcement of the state's new regulations for the control of venereal diseases.

* * *

After only three years' use, Canton's sewage disposal plant is inadequate to meet the city's needs. The plant was designed to accommodate a city of 80,000 inhabitants, according to city officials, and was expected to require no enlargement for ten years. The growth of Canton has been so rapid that it is now estimated that \$50,000 will have to be spent in enlarging the plant at once.

Only six of Canton's twelve new wells for the city's water supply were completed May 1, the date set for the completion of the entire dozen.

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No. 7

THE DEPARTMENT'S ROLL OF HONOR

ALLEN W. FREEMAN, M. D.,
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HORTON BELL.

EDITORIALS

Venereal Diseases Are a Public Health Problem

Venereal diseases constitute a public health problem, as truly as does tuberculosis or smallpox or typhoid fever. This statement presents no new theory; it merely presents a theory the truth of which has been far more widely recognized during the past year than ever before.

Physicians and sanitarians, together with a few far-thinking persons in other walks of life, have long recognized these maladies as a menace to the public health. The attitude, however, of the people at large—apathetic or prudishly unwilling to face the situation—has in the past discouraged any attempts to deal openly with the problem from the public health viewpoint. Many physicians, even, despite their knowledge of the ravages of venereal diseases, have been unwilling to put the public interest before that of their individual patients and co-operate with health authorities in controlling the diseases.

Happily, however, this public attitude has been changed by developments which have come with the war. Draft examinations have brought to light a venereal disease prevalence among the nation's young men which proves that the civilian authorities have not been attaining the

mark set by the army medical corps in venereal disease prevention. Those who have considered venereal diseases as an unclean subject not fit for decent people's minds, or as a private matter to be kept secret at any cost, have been forced to a realization of the practical necessity for insuring our national efficiency by frankly fighting this menace.

America has awakened to the fact that the man who becomes infected with syphilis or gonorrhea is not merely paying the penalty for his own misconduct, but is also endangering the health of others and making himself a national liability instead of an asset in time of war.

This change in attitude on the part of the public makes practicable the carrying out of a comprehensive public health program for the prevention and control of venereal diseases. Such a program has been adopted in numerous states, of which Ohio is one, and measures are now being enforced which, supported by awakened public opinion, bid fair greatly to lessen the prevalence of venereal infections in this and other states.

Fundamentally the methods which have been adopted for the control of venereal diseases are similar to those employed in dealing with other communicable diseases. Knowledge of the incidence of the disease is gained from case reports; such isolation as is necessary to protect the public health is required; provision is made for the removal of conditions which tend to spread the infection and facilities for the treatment of diseased persons are established.

Such methods of dealing with the situation must be considered logical. They constitute a sane and well-rounded program which contrasts sharply with the sporadic and incomplete "reform" efforts of the past.

Whatever moral aspects the venereal disease problem may have, it is, when considered from the standpoint of national efficiency, primarily a public health matter. When thousands of our population are being incapacitated or seriously damaged physically each year by venereal diseases — preventable diseases, — there can be no doubt of the duty of public health officials to work for the control of these diseases, or of the duty of the public to support the health officials' activities.

* * *

Frank Discussion of Venereal Diseases Is Needed

What we have said regarding the altered public attitude toward the venereal disease problem must not be taken as meaning that we consider the present situation in that regard all that could be desired. There is more frankness now in dealing with venereal dis-

eases than there was a year or two ago, but we are still far short of absolute, universal frankness. The situation is changing, but it has not yet changed.

The progress which has been made is encouraging. It leads one to hope for further development along the same line. To aid, tactfully and without violence to any one's prejudices, in bringing about such development of frankness is a duty which lies before all who are interested in lessening the prevalence of venereal diseases.

Civic organizations must be made to see the duty of dealing fearlessly with vice and its consequences. Pulpit and press must be brought into the front rank of the fight. And (most important of all, perhaps) the possibilities offered by the home must be developed; parents must be made to see that the venereal disease menace hangs over every household and can not be warded off by pretended ignorance that it exists.

The more quickly vice is stripped of the robe of attractive mystery which it has worn for so many years and venereal diseases are depicted in their true colors, the more quickly shall we reduce the ravages of these infections to a minimum.

* * *

"When, Where and Under What Conditions Cases Occur" "No health department — state or local — can effectively prevent or control disease without knowledge of when, where and under what conditions cases are occurring." This familiar slogan of the United States Public Health Service states in concise form the reason for requiring reports of venereal diseases.

Venereal diseases are communicable diseases, dangerous to the public health. To control them, and thereby to protect the public health, the State Department of Health must know "when, where and under what conditions cases are occurring." Therefore it has adopted regulations requiring that this information be furnished by persons whose professional duties bring them into contact with cases.

* * *

What the State Expects the Physicians to Do One of the most important features of the new venereal disease regulations is the provision that in reporting a case of venereal disease, the source of infection shall be stated if it can be learned by reasonable diligence. The degree of good to be obtained from this regulation, however, depends in large measure upon the willingness of the physicians of the state to carry out the spirit of the rule.

"Reasonable diligence" does not mean inquiring casually as to the source of infection and, if the diseased man hesitates over the answer,

leaving the space blank. It means that the physician shall make it clear to the patient, if necessary, the importance of this information and shall leave no means of obtaining the information untried. Only by following such a course of positive co-operation can the physician prove his patriotic interest in bringing venereal diseases under control.

In fact, however, the patient will probably, more often than not, be perfectly willing to name the source from which he acquired the infection. It will be merely a matter of asking him and noting down his reply. The regulation, therefore, imposes no unusual duty upon the doctor, and in any case his fullest compliance with the spirit of the regulation will involve no task the performance of which he does not owe to the public.

The physician is an important cog in the machinery of venereal disease control in Ohio. The state realizes that it is making a new demand upon the physician at a time when he is busier than ever before. It is confident, however, that the great majority of the doctors will meet this responsibility as befits members of a profession which is giving such eloquent proof of its patriotism every day that the war continues.

* * *

The Work That Lies Before the Municipalities of Ohio The summaries of what certain cities are doing to aid in the work of venereal disease prevention, which are published elsewhere in this number, present an incomplete picture of the activities of Ohio municipalities in performing this patriotic duty. There are many promising local movements in progress of which no mention is made because details are not at hand. Enough is given, however, to provide a few examples of the kind of municipal aid that is needed by the state authorities in carrying out the campaign.

One important point to be remembered is that the support of the smaller cities and the villages is just as necessary as that of the larger places if venereal disease prevalence is to be reduced to a minimum in Ohio. No community, however small its population, is free from this menace to public health, we feel confident in stating. No community can afford to neglect the great opportunity for preventive work which offers itself today, when the entire nation has been, or is being, aroused to the importance of such efforts.

Venereal disease prevention is the public health worker's greatest field of activity today. And much of the most effective work must necessarily be done by the man in the local community. He must put into practice the principles laid down by the state regulations, must take steps toward the provision of clinical facilities for venereal disease vic-

tims and must see that his community is fully awakened to the importance of suppressing venereal diseases.

Any assistance the State Department of Health can give is willingly offered. Make known your wants; ask whatever aid you need in solving the problems which come up in your own town. All that is asked in return for services rendered is your willing co-operation.

* * *

The Place of the Clinic in the Venereal Disease Fight

"One small clinic in a populous community is worth more than a ton of literature distributed broadcast over the entire country," declares Passed Assistant Surgeon J. G. Wilson of the United States Public Health Service, discussing "Progress in Venereal Disease Control" in *Public Health Reports*.

The value of educational work in direct results is as likely to be wrongly estimated in regard to venereal diseases as in the case of any other phase of public health work. Educational activities are exceedingly valuable to supplement more direct preventive measures, but they cannot be considered as a substitute for direct preventive work.

With clinics established and arrangements made for the treatment in detention hospitals of infected persons whose habits are such that they will endanger the public health if left at liberty, reduction in venereal disease foci will follow as an immediate result. This reduction should bring about in turn a marked decrease in venereal disease prevalence.

The importance of educational measures must not be under-estimated. Neither must it be thought that such measures will replace the recognized disease control methods which have proved so effective in dealing with other communicable diseases.

* * *

Department Issues Three Sex Hygiene Pamphlets

Realizing that instruction of the public with regard to sex hygiene and venereal diseases is one of the most effective means of fighting these diseases, the State Department of Health has just issued the first three pamphlets of a series devoted to such instruction. These pamphlets bear the following titles:

No. 1 — "Some Things a Young Man Should Know About Sex and Sex Diseases."

No. 2 — "How Any Boy Can Develop His Health and Strength."

No. 3 — "Instructing Your Child in the Facts of Sex."

As these titles indicate, the first pamphlet is addressed to young men and to boys who are approaching maturity, the second to younger boys and the third to parents. In all these pamphlets the point of view taken is that sex is a normal human attribute, which must be considered sanely in its relations with other human attributes.

The pamphlet for young men emphasizes the need for self-control as a means of making the sex impulse productive of happiness rather than misery. It avoids being "preachy" and aims to talk as man to man, presenting the two opposing kinds of life which are open to every young man and asking readers to make their own choice.

In the pamphlet for boys instruction in matters of sex is incorporated in general advice for personal hygiene. An effort is made to keep from over-emphasizing sex and yet to make the boy understand that proper control of sex functions is essential to his development into vigorous manhood.

Parents are advised in the third pamphlet as to the reasons and the proper methods for imparting sex instruction to children in the home at an early enough age to protect the children from the contaminating influences which will threaten them as they grow older. It aims to make clear that proper instruction by the parent will lessen the danger of the improper instruction which every child is likely to receive at an early age from other sources, and that failure of the parent to give such instruction may leave the way open for a career of dissipation which, begun in ignorance, will end in disease and misery.

Another pamphlet, designed along similar lines and addressed to girls and young women, is in preparation. Copies of any of these pamphlets will be sent free of charge upon application to the State Department of Health.

* * *

Aid Offered to Manufacturers Industrial plants, whose continued operation at highest efficiency is so important a matter in time of war, offer one of the most fruitful fields for work in venereal disease prevention. The State Department of Health is prepared to assist any manufacturing establishment in the state in a campaign to decrease the ravages of these infections among employees.

The Bureau of Venereal Diseases, in co-operation with the Federal Commission on Training Camp Activities, will furnish educational posters for use in the plant, warning employees of the dangers of these diseases. It can also furnish at cost circulars of information on venereal diseases for distribution among the men, instructions for plant su-

perintendents and enclosures such as the following for use in pay envelopes:

"Venereal diseases (clap and syphilis) must be wiped out in this plant—it's up to you to help. Read the notice posted today."

"It takes a year or more to cure an ordinary case of syphilis—a bad case is often incurable."

"Most cases of venereal disease come from prostitutes. Seventy to ninety-five percent of all women of this sort have clap or syphilis or both."

Arrangements can be made to have representatives of the Bureau of Venereal Diseases give lantern slide talks to employees, and clinics which have been, or soon will be, established in most communities will provide treatment for men who can not afford treatment by private physicians. Manufacturers and other employers should encourage the establishment of venereal clinics in their communities.

The prevention of venereal diseases among Ohio's industrial workers will mean a profit in dollars and cents for employers and employees, and will greatly strengthen America's material resources for carrying on the war.

* * *

Commissioner and One of Chief Aides in Service Still the war continues to make its demands upon the staff of the State Department of Health. The most recent members to leave are Dr. Allen W. Freeman, commissioner of health and head of the Department, and Dr. Frances M. Hollingshead, director of the Division of Child Hygiene.

Dr. Freeman has received a major's commission in the Medical Reserve Corps and Dr. Hollingshead has been appointed to a place in the children's bureau of the American Red Cross in France. Both have been granted leaves of absence for the period of their war service.

Major Freeman entered upon active service July 5, when he reported at the Army Medical School in Washington. Dr. Hollingshead sailed for France a week later.

The supervision of the Department's activities will be in the hands of Deputy Commissioner James E. Bauman during the Commissioner's absence. Dr. Freeman's departure interrupts for the present the progress of plans which he was formulating for improvements and extensions, but his subordinates are continuing their duties with a resolution to keep the machinery moving at the highest possible efficiency in the absence of the chief.

The management of the Children's Year campaign had been occupying most of Dr. Hollingshead's attention for the past six months. She

had perfected a strong statewide organization for this work, and it is to be hoped that her body of workers will continue in her absence to carry out the comprehensive program which was mapped out under her supervision. Dr. Hollingshead's successor in the Department has not yet been chosen. In her position as state child welfare chairman of the Women's Council of National Defense she has been succeeded by Miss Lucy Buell. Co-operation between the defense council and the health department in carrying out the Children's Year program will be continued.

* * *

Vaccination Should Be Required of Munitions Workers

The United States Public Health Service in June addressed to manufacturers producing war materials a communication urging that vaccination against smallpox and inoculation against typhoid fever be required of all employees, as they are now required of all men in the military forces of the United States.

Such a proposition needs no argument. If it is reasonable to demand that soldiers take these precautions against having their efficiency undermined by disease (and objections to that requirement are negligible), it is just as reasonable to demand similar precautions of the workmen who produce the munitions these soldiers use.

Many Ohio manufacturing plants have already established rules requiring smallpox vaccination. Few, if any, have taken such action regarding typhoid inoculation. Both these lists ought to be extended.

Lack of vaccination from January, 1912, to May, 1918, cost Ohio more than 600,000 working days of citizens at the most productive period of life, statistics in last month's JOURNAL showed. A highly disproportionate share of this enormous loss has come during the present epidemic, and the cost to the munitions industry, it can not be doubted, has been great.

Typhoid fever, as figures in the JOURNAL for May demonstrated, caused a loss of more than 33,000 working days last year. Again the munitions industry must have suffered.

Local health officials have in many cases been instrumental in obtaining vaccination requirements in industrial plants. Other such officials should likewise grasp the opportunity to do a valuable piece of war service.

Duties Imposed by the Venereal Disease Regulations

Upon Physicians:

To report every known or suspected case of venereal disease which they treat, stating the name, age, address, sex, color and occupation of the patient, the date of onset of the disease and, if ascertainable by reasonable diligence, the probable source of infection.

To instruct venereal disease patients in measures for preventing the spread of the disease and in the necessity for continuing treatment until cured, and to furnish patients with information relating to the disease, the literature for this purpose being furnished by the State Department of Health.

To issue no certificate of freedom from venereal disease except after careful clinical and laboratory examination and unless certain that the certificate is not to be used for immoral solicitation.

Upon City, Village and Township Health Officers:

To use every available means to discover and investigate cases of venereal disease in their respective jurisdictions, and to ascertain the sources of infection.

To have examinations made by licensed physicians of all persons reasonably suspected of having a venereal disease, in which suspected class are to be considered all known prostitutes and persons associating with them; the health officer may make such examinations himself if he is a licensed physician.

To co-operate with other officials in repressing prostitution and to use every other proper means to that end.

To quarantine any person having, or reasonably suspected of having, a venereal disease, when so directed by the State Commissioner of Health.

To protect records of venereal disease cases from being made public, except upon court order.

Upon Venereal Disease Patients:

To refrain from exposing any other person to the disease.

The Penalty for Failure to Perform These Duties

Is a fine of not more than \$100 for a first offense, and a similar fine or imprisonment for not more than ninety days or both for a subsequent offense, if the allegation states that such offense is a second or repeated offense.

NOTE. The venereal disease regulations, which went into effect July 1, were published in full in the June OHIO PUBLIC HEALTH JOURNAL. Leaflets containing the regulations can be obtained free from the State Department of Health.

Ohio's Venereal Disease Program

By H. N. Cole, M. D., Director, Bureau of Venereal Diseases, State Department of Health.

IN line with a general Government campaign, the State of Ohio has instituted a campaign against venereal diseases. Our great war is opening the eyes of the people to the fact that we have another great plague on hand. Thus far, the subject of venereal disease has never been mentioned in the homes, the pulpits have been silent and nothing has been said concerning them in our schools. The result has been appalling. Many young men and young women have been ruined for life before they really realized the cause and result. This war has given us an excuse and a starting-point for launching a nationwide and statewide campaign. This campaign in Ohio is under the general direction of the United States Public Health Service and is somewhat along the following lines:

Beginning July 1, all cases of venereal disease in the State of Ohio must be reported by name to the State Commissioner of Health. This will serve several purposes. The Department of Health will have a better idea of the amount of venereal disease within our borders and, also, it can, in a way, keep these cases under observation and follow up their future to see that they get proper and sufficient treatment. In addition, physicians are required by law to report not only the cases but also the source of the infection. This is perhaps even more important,

as thereby we hope to ferret out houses of prostitution, so-called "bed houses," women of bad reputation, etc. All persons reasonably suspected of being prostitutes are liable to examination, to arrest if found infected and to hospitalization for such a length of time as is deemed necessary by the Commissioner of Health.

Another part of our program consists in more careful diagnosis and treatment of these cases. The State of Ohio already is doing the Wassermann test for syphilis, and any physician, on writing to the State Department of Health at Columbus, can obtain containers and proper directions for sending specimens to the State laboratory for examination. The Wassermann test will also be done on spinal fluids and microscopic examination of smears for gonorrhea will be made at the State laboratory.

It is the plan of the State to open, or have opened, carefully organized clinics for the diagnosis and treatment of venereal disease. These clinics are to be run by experts in this line and will fill a long-felt want. Several clinics are already in operation and we hope within the next few months, to increase this number and enlarge their facilities.

Another need which is very necessary in connection with a campaign against venereal diseases is hospital beds. Without these beds it is impossible properly to care for some of our acute cases of

syphilis, gonorrhea and chancroid. Moreover, these beds must be at hand for the proper care of prostitutes and street-walkers whom we wish to withdraw from their nefarious trade. This part of the campaign is slower and harder to obtain, yet some of our cities are responding nobly and we trust that very soon there will be ample hospital facilities in every city for the care of these cases. We cannot too urgently recommend that all communities think over this part of the program very carefully and provide sufficient beds for these cases. We always insist on hospitalizing a case of smallpox or scarlet fever, yet thousands of prostitutes with acute syphilis and gonorrhea are walking our streets plying their trade and nothing is done with them. It would pay the communities in dollars and cents, if we look at it in a financial way alone.

In connection with all dispensary and hospital cases, careful records are to be kept of diagnoses and treatments given to patients and the Department of Health urges all such institutions to have a trained social service nurse in connection with the clinic. It is in this way only that we can hope to succeed in making proper progress against these diseases.

It need hardly be mentioned that the United States Government looks askance at such a thing as a regulated "red light district." There is no such thing. And it is the aim of this Bureau of Venereal Diseases to suppress prostitution, street-walkers and houses of ill-fame without a moment's delay.

The Department also plans a survey of our jails and peniten-

tiaries, as Snow has shown that positive Wassermanns were found in from ten to forty-eight per cent of all these inmates.* It is generally recognized that venereal disease is all too frequent in our convict population. We hope very soon to have examinations for venereal disease of all persons brought into criminal court. This is being done very successfully in some cities and there is no reason why it should not be done everywhere in Ohio.

A little later it is also hoped to do something with our venereal quack problem and also with drug-store prescribing for venereal disease. We have no doubt that all fair-minded druggists will gladly co-operate with this part of our campaign, for there is no question but that it is the cause of much trouble, of mistaken diagnoses and of many uncured cases of syphilis and gonorrhea with their resultant after-effects in future years.

The last part of our campaign consists in a statewide propaganda of education for both the laity and the physician. How many physicians are there at present who treat their cases with the protoiodid tablet alone? Unfortunately, we see too many examples of this every day and the result is sad indeed. The public will soon begin to demand that they get a certain type of treatment or they will see another physician, and they are right in this demand. No man should treat a case of gonorrhea or syphilis unless he is willing to take the time to keep up to date on the subject. For the public, we propose putting out placards all over the city, in toilets of saloons, barber shops, hotels, etc. There will also be lec-

* Snow, "Public Health Measures in Relation to Venereal Diseases," *Journal of the American Medical Association*, LXVI, 1008 (April 1, 1916).

tures given to Y. M. C. A.'s, clubs, educational institutions, etc., and the state is also intending to spread broadcast pamphlets intended for the instruction of young boys and girls. The newspapers and magazines will also be a valuable aid in this campaign. An example of this municipal work is provided by a brief outline of what is being done in Cleveland:

Placards are being distributed through the saloons of the entire city, and it is intended to distribute them later in manufacturing plants, Y. M. C. A.'s, etc. Through these placards the patients are instructed to visit certain dispensaries, which are the tuberculosis dispensaries, and here they are advised to visit our regular venereal clinics, which run both daily and several evenings a week. If the patient is in a condition dangerous to the community, he is so advised and sent to the Cleveland City Hospital for a certain period of time, where he received at least three doses of salvarsan and adequate mercury to clear up his lesions. He is then referred back to the venereal clinic where he is kept under close supervision and told to come back for treatment as is necessary. In case the patient misses his visit, record of which is kept on a card index system by the social worker, he receives a postal card notifying him when he shall make another visit. If he neglects to do this the social worker calls on him. If he still neglects, the Board of Health steps in and by force insists on his carrying out the proper measures.

By this method, in a city with a large floating population, it has been found possible to keep sixty-five per cent under close supervision. What is being done in Cleveland, I trust we shall be able to do in other parts of the State.

The State of Ohio already has at hand 10,000 framed placards of information regarding venereal diseases. Any health officer or physician desiring some of these placards may get them by applying to the State Department of Health. The Bureau of Venereal Diseases has also sent out recently in connection with the United States Public Health Service a circular letter and report cards for reporting cases. There were also enclosed five circulars of information on syphilis and gonorrhea which are to be handed to the patients and in case translations of these circulars in Roumanian, Armenian, Finnish, French, Greek, Hungarian, Italian, Lithuanian, Polish, German, Swedish, Syrian or Yiddish are desired, the same can be procured by addressing the Department of Health. The careful co-operation of all physicians is urgently requested in this work. It means much, both to the state and to the nation.

FIRST OHIO CASE WHERE RECENT VACCINATION DID NOT PREVENT SMALLPOX

The first case to come to the notice of the State Department of Health in which a person recently successfully vaccinated contracted smallpox, has come to light in Findlay. Epidemiological investigation by the Department verified these details: The patient, a woman, was successfully vaccinated February 15. She developed symptoms of smallpox June 22, but the physician withheld his diagnosis on account of the vaccination, though reporting his suspicions to the health officer. The epidemiologist of the State Department of Health was called and confirmed the smallpox diagnosis June 28.

What Ohio Cities Are Doing in the Campaign Against Venereal Diseases

IN the short space of a few months the cities and communities of Ohio have responded nobly in the Government campaign against venereal disease. One of the principal parts of this campaign consists in the establishing of day and night clinics for the treatment of these cases and the opening up of sufficient hospital beds to hold such patients as are very sick or are dangerous to the public health—this refers especially to prostitutes. Let us give a few examples:

The city of Toledo has already appropriated a large sum of money, opened a day and night clinic for the treatment of these cases and will very soon have sufficient hospital beds in an old building for the care of such venereals as are found in her limits.

Cincinnati, which already had a day clinic and a sufficient number of beds for males has opened a night clinic twice a week and set aside some thirty to thirty-five extra beds for female cases. Moreover, the Social Hygiene Society is preparing to run a day and night clinic of its own.

The Council of the city of Columbus recently appropriated \$10,000 for the establishment of a clinic and the opening of a sufficient number of hospital beds.

Youngstown already has a night clinic and a small number of beds for these cases, and in addition is planning to start a day clinic and has voted funds for more beds in the hospital.

The city of Cleveland heretofore has had two carefully regulated

day and night clinics for venereal cases but they lack sufficient hospital space, there being only twenty-four beds available. However, the people voted a bond issue of \$100,000 for this purpose. It has recently been approved by the Capital Issues Committee and within the next two months 150 more beds will be opened up solely for the care of these cases.

Even some of the smaller towns are responding very well. For example, Salem has a well organized day and night clinic to take care of these cases and there are sufficient beds available for all patients that should be hospitalized.

Akron is about ready to start her venereal disease program and the B. F. Goodrich Rubber Company has a venereal clinic of its own.

The commissioners of Ross County have turned over to the health authorities of Chillicothe and the sanitary district surrounding Camp Sherman, sufficient space and equipment at the county infirmary to care for all cases found in the county.

Dayton likewise is opening a day and night clinic and already has a goodly number of hospital beds.

On the whole the cities of the State of Ohio are doing very well in the campaign to protect the soldiers and the communities against venereal disease. In the next six months we hope to see even greater strides. In the following paragraphs are given a few sketches of municipal venereal disease activities, furnished by the health departments of the cities in question:

CLEVELAND—

Like all large cities Cleveland has been hampered in the past by lack of funds, with the result that thus far we have only had some twenty-four beds available in the City Hospital for the treatment of venereal diseases. Nearly a year ago a bond issue of \$100,000 was voted by the city of Cleveland to fit up the old nurses' home in the City Hospital for the care of these cases. This fund has not been made available until within the past few weeks when it was passed by the Capital Issues Committee. However, in the next few days some of these beds will be opened and within two months we can take care of 150 cases.

At present our plan of procedure is somewhat as follows: We have two carefully regulated day and night clinics at the Mt. Sinai and Lakeside Hospitals. These clinics are in charge of competent men with social service nurses in connection. Careful records are kept of all cases. All acute cases dangerous to the community are sent to the City Hospital until partially freed at least, from their disease, free salvarsan being furnished when necessary. Thus, in the last year the city of Cleveland gave some \$2,000 worth of free salvarsan at the City Hospital. They are then referred back to these clinics and kept under careful supervision until cured.

The city of Cleveland has distributed in the toilets of saloons, barber shops, hotels, Y. M. C. A.'s, etc., framed placards in different languages, telling people of the dangers of venereal disease and thus far many lectures have been given in schools, churches, Y. M. C. A.'s, etc.

CINCINNATI—

For Cincinnati, Dr. J. H. Landis, health officer, reports:

"Cincinnati has no vice district and has suppressed street walking. Theoretically, this should reduce the venereal disease problem to a minimum. No statistics however, on which to base an opinion on this point, are available.

"Hotels, rooming and boarding houses are under close surveillance by the police department and the indications are that never before in the history of the city has prostitution been as hazardous an occupation as at the present time.

"Women taken in raids are sent to the hospital for diagnostic purposes. If venereal disease is found they are sent via the police court to the Workhouse Hospital for treatment until no longer infectious, before being turned over to the Federal government.

"Many professional prostitutes have left the city. Many clandestines have secured employment and have given up the old method of securing a living. 'Sitting rooms' are being broken up through the activities of the purity squad headed by Detective Ellenreider, who has had charge of this work for several years.

"Two night clinics per week (Monday and Thursday from 7:30 to 9 P. M.) will be started June 24th at the General Hospital. These will be made self-supporting and it is expected to hold them every night when the attendance increases.

"The State Department of Health framed placard (500 of them) has been distributed in public places throughout the city.

"Attempts are being made to secure free Salvarsan for use in selected cases. All in all we feel

that a real step towards neutralizing the venereal peril has been taken."

COLUMBUS —

"The Columbus city council has appropriated \$10,000 to the board of health as a fund for the control of venereal diseases," says Louis Kahn, M. D., health officer. "It is the intention of the board to equip a part of the city workhouse as a hospital for the treatment of venereal diseases, and to put it in charge of a physician — a specialist if necessary — and nurses. There cases of venereal disease will be treated and held until cured. We expect to start this work just as soon as the workhouse can be arranged and the necessary facilities provided to conduct the work."

An ordinance which has been introduced in the Columbus council provides penalties for venereally diseased persons who expose other persons to the disease or who fail to seek medical treatment and to continue such treatment until danger of infection is past. It requires quarantine and compulsory treatment of venereally diseased persons who fail to seek and continue treatment by a physician. The proposed ordinance provides fines for persons other than licensed physicians who furnish prescriptions or medicines for the treatment of venereal diseases. Physicians under the proposed measure would have to report venereal cases to the local health authorities.

DAYTON —

Health Commissioner A. O. Peters, M. D., says:

"About two months ago we established a venereal clinic at the health department, conducted by

Dr. J. G. Marthens, a specialist in this work. At the present time the Miami Valley Hospital has twenty-one beds set aside for the treatment of patients afflicted with venereal disease. The police department is already co-operating with us in the apprehension of street walkers who may be thus afflicted, so that we already have our machinery in motion for attempting to handle this question.

"Since July 1, when the new regulations of the State Department of Health went into effect, we have been able fully to co-operate with the rest of the state in carrying out plans. We had planned to conduct this work in a different manner, but now that the state has made a uniform regulation for the control of venereal diseases, we have modified our plans accordingly.

"The police department brings to us women that are suspected of being diseased. These women are examined by our clinic physician and, if found to be diseased, are sent to the hospital for detention and treatment. The clinic is conducted three days a week from 4 to 6 P. M. When the work grows to greater proportions we shall open an evening clinic."

YOUNGSTOWN —

"The Youngstown board of health promises to co-operate in carrying out present regulations and any other rules which the State Department of Health may promulgate for the control of venereal diseases," says Dr. H. E. Webb, health officer. "Dr. Cole, director of the Bureau of Venereal Diseases, was with us a few weeks ago and met with the county medical society. He was assured of the co-operation of the

physicians' body for the campaign. The Youngstown Hospital has already established a venereal dispensary and clinic, and is considering the feasibility of increasing the accommodations for this class of patients in the wards."

PHYSICIANS ARE USING STATE LABORATORIES' DIAGNOSTIC FACILITIES

During the first three months in which Wassermann examinations were made by the Division of Laboratories of the State Department of Health, a total of 1,404 such tests were made, as shown in the following table:

	Pos.	Neg.	Unsat.	Total
April ..	137*	240	1	378
May ...	94	371	5	470
June ...	113	427	16	556
Total ..	344	1,038	22	1,404

The high percentage of positives in April is explained by the fact that the work was being started and a large number of clinically positive cases was examined in order properly to check the reagents used.

The Wassermann test is performed free for Ohio physicians. Outfits provided by the Department must be used in sending in specimens for examination. These outfits are obtainable upon application to the Department, but can not be obtained at the laboratory distributing stations of the Department in various parts of the state. Such specimens can not be sent in the mails except in approved containers such as the Department furnishes.

PREVIOUS VENEREAL DISEASE ARTICLES

For the convenience of readers the following list of articles dealing with venereal disease prevention, which have appeared in previous issues of the OHIO PUBLIC HEALTH JOURNAL this year, is given:

"All States Asked to Work Together to Control Venereal Diseases" (United States Public Health Service program for state and Federal co-operation), January, p. 26.

"War Increases Ophthalmia Neonatorum" (in British Isles), March, p. 115.

"Army Reports Progress in Venereal Disease Battle" (editorial), April, p. 138.

"Why Not Call a Spade a Spade, Mr. Editor?" (editorial), April, p. 138.

"How the Venereal Disease Problem Is Being Met in Ohio," April, p. 170.

"Investigating Arsphenamine," April, p. 182.

"War's Greatest Credit Item; You Can Help Increase It" (editorial), June, p. 234.

"Regulations for the Prevention of Venereal Diseases," June, p. 258.

"Venereal Quarantine Approved" (California cases), June, p. 277.

Articles in previous years' volumes can be found by consulting the indexes to those volumes.

At Gaucher's clinic in the St. Louis Hospital in Paris, before the war ten percent of the patients were syphilitic. After the first sixteen months of the war 16.6 percent were syphilitic and in the eight months immediately prior to December 16, 1917, twenty-five percent had the disease.

The Health Officer's Responsibility in the Enforcement of the Venereal Disease Regulations

By James E. Bauman, Deputy Commissioner of Health

THE enforcement of measures for the prevention and control of venereal diseases gives opportunity, very naturally, for inquiries as to the authority for the adoption of such regulations. If there is authority for adopting regulations, it follows that there is authority for their enforcement.

The history of legislation for the prevention of venereal diseases closely follows that of legislation for the control of other diseases that have been determined to be communicable and a menace to the public health. Only a few years ago the same questions that are now being raised in regard to regulations for the prevention of venereal diseases were raised when the attempt was made to require reports of cases of pulmonary tuberculosis and, from the standpoint of the sanitarian, the answers to those questions are the same; e. g., we are dealing with a disease that causes untold suffering; it is communicable from one person to another, therefore a menace to the public health, and the person who willfully aids in transmitting the disease is a criminal and should be punished; it is preventable, and those with authority to act have not done their full duty until they have gone to the limit of their authority in devising and carrying out measures to prevent the spread of the disease.

In discussing with a health of-

ficer his responsibility in the enforcement of regulations adopted by the State Department of Health, it is not seemly to present argument as to the necessity for the regulations, the authority for their adoption or as to their validity, but there are some who seem inclined to gauge their responsibility by their own opinions on these points. For such as these we ask that you bear in mind that there are properly created courts of law to answer such questions, and until competent authority determines a law or regulation to be invalid it is of full force and effect and those responsible for its enforcement are under legal compulsion to carry out to the fullest extent the duty laid upon them.

Regulations are adopted by the State Department of Health under authority specifically delegated by the legislature. As it is necessary that there shall be a legislative body for the purpose of passing laws of a general nature for all the state, so is it necessary that there shall be a central body to legislate with reference to sanitary matters of such nature that it is not advisable to have them made the subject of laws. To provide for this the Ohio laws declare that "the State Department of Health shall have supervision of all matters relating to the preservation of the life and health of the people and have supreme authority in matters

of quarantine, which it may declare and enforce, when none exists, and modify, relax or abolish, when it has been established." In furtherance of this object and to provide the means whereby results can be secured, it is provided that the State Department of Health may make special or standing orders or regulations for preventing the spread of contagious or infectious diseases and for such other sanitary matters as it deems best to control by a general rule. The Department of Health is given specific authority to require reports of diseases not only by physicians, boards of health and health officials, but by other persons who stand in such relation to the patient that the requirement would be reasonable.

To provide the machinery for enforcing the special and general regulations of the State Department of Health, the statutes require that "local boards of health, health authorities and officials, officers of state institutions, police officers, sheriffs, constables and other officers and employees of the state or any county, city or township, shall enforce the quarantine and sanitary rules and regulations adopted by the state board (department) of health." (Sec. 1238 G. C.)

The penalty for failing to obey the regulations of the State Department of Health is the same as that provided for failing to obey the regulations of a municipal or township board of health and the modes of procedure, courts, practice, etc., are the same. This penalty is as follows: "Whoever violates any provision of this chapter, or any order or regulation of the board of health made in pursuance thereof, or obstructs or interferes with the execution of such order, or wilfully

or illegally omits to obey such order, shall be fined not to exceed one hundred dollars or imprisoned for not to exceed ninety days, or both, but no person shall be imprisoned under this section for a first offense, and the prosecution shall always be as and for a first offense, unless the affidavit upon which the prosecution is instituted, contains the allegation that the offense is a second or repeated offense." (Sec. 4414 G. C.)

Careful consideration of the above sections and other provisions of law referred to above will disclose the fact that the members of a board of health or a health official may be prosecuted for failure to perform a duty laid upon them by law just as effectually as would be the case if an individual failed or refused to observe an order or regulation of a local board of health.

In the June issue of this JOURNAL are printed the regulations for the prevention of venereal diseases as adopted by the Public Health Council May 2, 1918. Following the instructions of the Council, its secretary has caused the regulations to be published in the OHIO PUBLIC HEALTH JOURNAL and a copy of the issue of the JOURNAL containing the regulations has been sent to each health officer in the state. This information is given for the reason that everyone concerned is entitled to know that the provisions of law relating to the adoption of sanitary regulations by the State Department of Health have been observed.

These regulations will be printed in pamphlet form and distributed on request. Correspondence in regard to the provisions of the regulations or any matter relating thereto will receive prompt and careful attention.

Reported Prevalence *vs.* True Prevalence of Venereal Diseases in Ohio

By Sara Kerr, Statistician, Division of Communicable Diseases,
State Department of Health

IN February, 1917, health officers of the largest ten cities of the state were asked their opinion as to the advisability of amending the regulations providing for reports of gonorrhea and syphilis in Ohio by requiring that names and addresses of patients be given, the morbidity report regulations of the Ohio State Board of Health passed on October 21, 1914, carrying the proviso that "in reports of cases of the venereal diseases the name and address of patient need not be given." This question of amendment was raised in addition to sending to physicians and health officers of the state customary form letters for improved reporting of venereal diseases after the tabulation of morbidity reports for 1916 showed marked decreases in reported cases of gonorrhea and syphilis compared with returns for 1915. The suggested amendment by requiring names and addresses could conceivably produce further decreases in the number of cases reported, such a result being probable in the opinion of two of the eight health officers replying to the question of amendment, but these two health officers were giving the least attention of the ten to securing any reports of venereal diseases. The belief is just as tenable that physicians could see little value other than for statistics, inaccurate at that, in submitting reports without names

and addresses of patients, and consequently would be more inclined to neglect reporting.

It was not, however, so much the question whether or not the amendment should be adopted at this time, as what seemed to be the attitude of the health officers on the whole subject of venereal disease reports, that caused the special inquiries to be directed to the ten cities. In February, 1917, the great emphasis which war has since placed upon the necessity for controlling venereal diseases was lacking and the problem of securing reports was more difficult than it should be at present. Knowing, however, the attitude of the health officers in the ten largest cities, comprising over a quarter of the population of the state, it was hoped that some light upon solving the problem might be obtained.

No reply to the question of amendment was received from Akron and Columbus. Akron reported five cases of gonorrhea and two cases of syphilis in three years, 1915-1917. Reports for Columbus compare more favorably with returns from those cities making some effort to secure compliance with requirements. Of the eight answers received, it was gratifying that five favored the amendment. These five affirmative answers were from the health officers who were securing the larger number of reports, Toledo with the highest

case report rates sending the most enthusiastic reply in favor of the amendment. By way of contrast with our present recognition of the absolute necessity of securing reports today to safeguard army, navy and nation, the following statements from one city are quoted: "We all know that the great majority of physicians would refuse to report the name and address of a venereal case" and "I believe the requirement would penalize reputable practitioners of medicine and that it could not be enforced." On the contrary, we all know today that physicians cannot refuse to report and that it will not be the reputable practitioners who will be penalized.

Despite the recognized value of reports and the great advantage if such were being regularly received as we entered upon the war, letters, circularizing, proposed amendments and other available methods failed to produce improvement in reporting during 1917. The record for the state for the three years during which gonorrhea and syphilis have been reportable diseases in Ohio follows:

	1915	1916	1917	Total
Gonorrhea	2,649	1,701	1,454	5,804
Syphilis ..	1,061	804	814	2,679

It has been conservatively estimated that annually about one person in every forty in the United States is treated for venereal disease. Military medical supervision will give more definite figures of incidence, particularly for the age group of highest susceptibility to infection, but using the estimate of one in forty annually seeking treatment, with Ohio's population exceeding 5,000,000, the table above, with fewer than 8,500 cases for the two most prevalent venereal

diseases in three years, casts a most serious reflection upon physicians of the state who are entrusted with the responsibility of reporting diseases dangerous to the public health. In the same three years syphilis alone caused more than 1,200 deaths in Ohio directly registered as due to this disease, with over 400 more deaths under the title of locomotor ataxia to be added, with the total number more than doubled by the many deaths from general paralysis of the insane, cerebral hemorrhage, paresis, certain diseases of the heart and blood vessels, and other causes, for which syphilis is or may be responsible, although the classified statements of death conceal its identity.

Records show that the 80 cities of the state have reported 86 per cent of the cases of syphilis and 62 per cent of the cases of gonorrhea. The cities at the last census comprised 51.8 per cent of the total population of the state. It is quite possible to count, however, usually upon the fingers of one hand, the physicians in a city who comply with requirements governing reports. Toledo's records indicate that the responsibility of submitting reports is more deeply felt and observed by her physicians than by other physicians of the state. In the three year period, Toledo reported 1,307 cases of gonorrhea out of the total of 5,804 cases for the state and 653 cases of syphilis, with the state reporting 2,679 cases, 22 and 24 per cent, respectively, of the state totals. It is not to be understood that these higher case rates for Toledo would indicate higher incidence. The evidence on reports shows instead better reporting in Toledo. In the majority of cities, it is probable that any one physician will recall, in his practice alone, more cases

in one year than reported by all physicians in the city, during the period in which regulations for reports have been in effect.

The state of California succeeded in 1917 in doubling venereal disease reports of the previous year, presenting figures with the statement that "the venereal diseases are now being placed on the same plane as any other reportable communicable disease." The cases of gonorrhea reported in California in 1917 numbered 2,873 against 1,091 during 1916, with the increase in the reports of syphilis from 1,538 cases in 1916 to 1,790 in 1917. The total of the two dis-

eases reported for 1917, 4,663 cases, was more than twice Ohio's total of 2,268 cases in the same year. California's population is only half the population of Ohio.

For the first six months of this year, 2,801 cases of venereal diseases have been recorded for Ohio, 1,966 being reports of gonorrhea and 835 of syphilis, an average per month of 328 and 139 cases, respectively. Higher averages were reported than for the past two years but not beginning to approach the averages which will obtain when physicians report all cases as required by regulations effective on and after July 1, 1918.

Venereal Disease in Relation to Child Hygiene

By Frances M. Hollingshead, M. D., Director, Division of Child Hygiene, State Department of Health

IT is, of course, an old and trite statement that the relationship between venereal disease and child hygiene is a close one. The fact that syphilis plays a very important part in the infant mortality rates is well known. It remained, however, for a recent study to give us actual findings in a large group of cases. Whitridge Williams found in a careful study of 705 foetal deaths occurring in 10,000 obstetrical cases admitted to Johns Hopkins Hospital that the connection is very vital. Of the 705 foetal deaths intensively studied by the best diagnostic methods and by pathological examinations, syphilis was the cause of death in 186 cases or 26.4 percent of the total, while 127 deaths or 18 percent

were due to unknown causes. Of these unknown causes, Doctor Williams believes that syphilis was responsible for at least 40 deaths or one-third of the series. In this group of 10,000 cases nearly half were colored and this would perhaps account for the high syphilitic death rate. In the 705 foetal deaths the rate was: black 9.4 percent, white 5.1 percent. The same held true of the incidence of syphilis among the women, negro syphilitics representing 35 percent and whites making up 14 percent. In addition to these 186 foetal deaths, microscopic examination of all placentas showed that 350 children with syphilis were born to the 10,000 women. This leaves 164 children who were still alive at the

end of the period of confinement and who died soon after or showed lesions of hereditary syphilis later in life.

A striking example of the influence of syphilis on the lives of babies occurs in Ohio month after month. There were reported in the state in the first four months of 1918, for instance, 194 deaths from syphilis. Of this number, 57, or 30 percent, were one year of age or younger. These were all live children whose deaths were reported due to syphilis, but during the same period there was a large number of stillborn children reported. How many stillbirths are due to syphilis we cannot say, with no accurate statistics available, but of course a large proportion was caused by this disease. Basing the statement upon the records for past years in Ohio of an average of 250 stillbirths each month, one may safely claim that out of the thousand stillbirths in the four months an unknown but surely a high toll of baby lives is paid to the incidence of syphilis.

The statement that syphilis plays an important part in Ohio's infant mortality is further strengthened by the fact that for the past three-year period there was a total of 401 deaths of children under one year caused by syphilis—34 percent of all deaths registered as due to syphilis. In this same three-year period there were 9,926 stillbirths with no record of the syphilis represented in this number. There are, too, the deaths registered under "prematurity" and "inanition," which are in their turn closely related to syphilis.

When we remember that the children who die under one year of age are the fortunate ones, while the ones who go through life as

cripples, as imbeciles or epileptics are those who really pay the penalty, one is brought directly face to face with a problem, the immensity of which is appalling. One has only to study carefully the chart of any of the famous families, such as the Kalikak family, to find that alcohol and syphilis head the list as regards frequency of appearance among its members. These mental and moral wrecks, while not so great in numbers perhaps as the abortions, premature births and deaths in infancy, are almost a greater problem because they become or should become a source of actual expense to the community in which they live, to say nothing of the dangers to which they expose society at large.

When one considers the effect of gonorrhea on the lives of children one has almost the same condition to face. Here we do not record great numbers of deaths, in fact, almost none, but we have to record the long illnesses, in the course of which the child passes from the acute into the chronic sufferer and often is left totally blind or else with the eyesight so impaired that life is at best a very doubtful joy. In Ohio, where there is a law in force to protect the lives of its babies by supplying actual care to children with infected eyes, there were, in 1916, 741 reported cases of specific infection. Of these, twenty lost the sight of one or both eyes and fourteen suffered probable loss of sight in one or both eyes. This serious loss, it must be remembered, occurred in a state where prompt investigation and treatment of cases of eye inflammation in infants, is provided for by law.

In the preceding discussion only

the infections directly transmitted to innocent children from diseased or careless parents were discussed, but there is still another angle from which the subject must be considered and that is from the standpoint of the possibility of the spread of specific disease among school children. The possibility of infection by one child with a gonorrheal discharge in a public school, where the condition is unrecognized and untreated, is almost unlimited and any physician who has done a fairly large amount of work in a children's dispensary is only too familiar with the kind of case which is found in schools. Another place in which children in the past at least have been much exposed to infection is in the wards of the children's hospitals or the general hospitals. It is not so very rare an occurrence to know of an entire children's institution, whose receiving department is closed until such time as the gonorrheal discharges among the inmates shall be cleared up. With greater knowledge as to the prevalence of vaginitis especially, it is possible to throw sufficient safeguards, in the way of examination and isolation, about newly admitted children to prevent the extreme condition developing.

These are only a few of the facts which bring unquestionably to our attention the influence of venereal disease upon children's welfare. Any statewide scheme to develop a thorough system for the control of venereal disease, to break down the unfortunate barriers of silence, to institute actual isolation, quarantine and treatment of infected persons, especially if combined with an intensive plan for general educational training for our very young people, will have an enormous influence upon the general

problem of child hygiene. The necessity for the educational training of all young children as well as the adolescent to a frank knowledge and understanding of matters of sex is as important as the purely medical side of the work. This is true because it is chimerical to expect to affect the real situation under several generations. Probably not until the little children of today have children of their own, who will be educated along quite different lines and who will, we hope, be armed with the one greatest necessity—self-control, the result of discipline begun immediately after birth—shall we see any very great change. The reason for doing everything possible to improve the situation now, is that the longer the first steps are put off the longer it will be before a single standard of morality and freedom from venereal disease may be brought about. No one single undertaking would do more for the little children than the development and operation of as wide and comprehensive a plan for the control of venereal disease as could be worked out with our present knowledge.

THE PHYSICIAN'S DUTY

To insure the success of the Federal Government program for the suppression of venereal disease, it is essential that that program should have the support of every practicing physician in every state. The best thought in the medical profession of today concedes that every doctor should consider himself a health officer without pay. — *Public Health Reports*.

In February, 1915, it was estimated that Germany had 175,000 cases of syphilis among her soldiers in Belgium alone.

The Laboratory and Venereal Diseases

By L. H. Van Buskirk, Director, Division of Laboratories,
State Department of Health

THE venereal diseases, gonorrhea and syphilis, have been and are of great interest to laboratory workers. As with other diseases, the bacteriologist has attempted to find the organism which is responsible for each disease and has worked from a purely scientific standpoint with little or no thought given to the social problems which are so intimately interwoven with the question of venereal disease control.

These diseases which are so vital to the human family have been known for many years. Their manner of transmission and the serious results which follow their inception have been observed but it is only recently that any marked advance in their control has been made.

Gonorrhea

While gonorrhea and its serious effects have been known for many years, it was not until 1879 that Neisser called attention to the constant presence of a peculiar organism in gonorrheal pus. Some few years later Bumm was able to isolate the organism in pure culture and, together with Welander, Bockhart, Bokai, Brenner, Wertheim and others, demonstrated that the pure culture of gonococcus when inoculated into the urethra of man would set up a typical attack.

After having established a causative agent of the disease it was necessary only definitely to identify the organism in order to establish a laboratory diagnosis. The

gonococcus has a characteristic and constant form and has certain peculiarities as regards its cultural and staining properties which assist the laboratory worker in its identification and thereby in arriving at a proper diagnosis. Besson gives a very clear picture of its appearance at various stages in the development of the disease. In pus from the urethra the gonococcus is found in pure culture during the first few days. In the early stages the organisms are few in number and are found almost entirely within the polymorphonuclear leucocytes. Numbers of epithelial cells are seen in the smears, but these contain few gonococci. Towards the third day the number of gonococci increases and a large proportion of the leucocytes contain the organism. A little later the epithelial cells disappear, and the majority of the gonococci are intracellular and are so numerous that about fifteen to twenty percent of the leucocytes are invaded. At a still later stage of the disease secondary infections take a part in the inflammatory process and as the acute symptoms pass off the epithelial cells again become numerous, but it is only when the disease enters upon the chronic stage that gonococci are again found within them and the pus cells diminish in number.

Knowing the characteristic form and staining properties of the organism as well as its location with regard to other cells, it would seem to be a very simple and definite

thing for the bacteriologist to examine a smear and state that gonorrhea either was or was not present. It is found, however, that certain other organisms are very similar morphologically and are easily confused, in a simple microscopic examination, with the gonococcus.

Jordan states that the behavior of the gonococcus towards the gram stain, together with its coffee bean form and intracellular situation, usually serves to distinguish it from related organisms, such as the common pyogenic cocci found in the urethra or vulvo-vaginal tracts. From the meningococcus, however, it is differentiated principally by the fact that it does not usually grow on the ordinary culture media. In practice, Jordan states, little confusion is caused by the close resemblance of these two organisms, since they are not likely to occur in the same tissues.

McFarland finds that the diagnosis of gonorrhea by observing gram negative diplococci in urethral pus and epithelial cells is a simple matter. The recognition of the microorganisms under other conditions, however, is by no means easy. Thus, when gonorrhea becomes chronic and the cocci are no longer taken up by the phagocytes it raises a little doubt whether gram negative cocci may be true gonococci or not. Again, when gonococcus-like organisms occur upon the conjunctiva, in the pus taken from the joints, upon the valves of the heart or in the Fallopian tubes, the same difficulty is met. Probably the greatest uncertainty arises when the conjunctiva is involved, for here there can come about the confusion of the gonococcus, the pneumococcus, and micrococcus catarrhalis which very careful staining and cultural experiments alone can solve.

It will be observed from the preceding paragraphs that it is not an entirely easy thing to demonstrate the gonococcus beyond question by the simple staining methods. In all doubtful cases it is necessary to utilize cultural methods. These are not simple, for the gonococcus has a highly selective action and does not grow readily upon the ordinary culture media. Special media must be prepared in order to secure its proper development. It is important, however, to utilize the laboratory in securing a diagnosis, in order to assist the physician in his clinical study. Not all inflammatory conditions of the urethra are attributable to the gonococcus. Other pus cocci contribute to the inflammation and in secondary inflammations the gonococci may disappear. So long however, as the gonococci persist in the urethra or other superficial tissue, the patient may spread the contagion and after apparent recovery from gonorrhea the cocci may remain latent in the urethra for years, not infrequently causing a relapse. Owing to these peculiar conditions, it is essential that the physician use every means placed at his disposal in order to ascertain as exactly as possible the true condition of his patient.

In addition to the microscopical and cultural methods of diagnosis, complement fixation has recently been suggested as of distinct diagnostic value. This method, however, is handicapped by the difficulty which has arisen in securing satisfactory results. The chief difficulty has been that of securing a satisfactory antigen. One of the peculiarities of the gonococcus is that various strains have been isolated which may or may not be specific for other organisms of the same group. Torrey has shown that not all races of the gonococcus

are antigenically alike. The antigen which he has prepared, and which is used by the New York Department of Health, is made from the original ten Torrey strains which he has isolated and used in his complement fixation work for gonorrhea. Until more work has been done in perfecting a satisfactory antigen, it does not seem likely that this method will come into general use.

Syphilis

While syphilis has been making its inroads upon man for centuries, it was but a few years ago that the exact cause of the disease was demonstrated. In the examination of material removed from syphilitic lesions a peculiar spiral shaped organism had been discovered for many years, by many observers. Bordet studied this organism very carefully and believed it to be the infective agent in syphilis. It was left, however, for Schaudinn and Hoffmann, in 1915, to demonstrate that this particular spiral shaped organism was the cause of syphilis. They gave it the name of *Spirochaete Pallida*, which name, however, is not generally used now but has been replaced largely by *Treponema Pallidum*. Schaudinn and Hoffmann were unable to find a suitable medium upon which to grow the organism, and so were unable to obtain cultures whereby they could transmit the disease experimentally. Another difficulty encountered was that the disease is not readily transmissible to other animals, it being found that certain apes are most susceptible and most laboratory animals not at all susceptible. Schereschewsky in 1909 discovered a method whereby the organism could be cultivated, but even with the method proposed by him, it was impossible to secure a

pure culture. It was certain, however, that the particular organism which was being observed was responsible for the disease as it was found by observers all over the world in lesions of primary and secondary stages. It was always present in lesions of congenital syphilis and was also found in the blood of many persons suffering from the disease. These facts, together with the fact that it was never found in healthy individuals or individuals suffering from other diseases, seemed to be sufficient evidence to show that it was the causative agent. In 1911 Noguchi first cultivated it in pure culture. The report of his investigations, methods of culture and isolation, may be found in the *Journal of Experimental Medicine*, Vol. XIV, 1911. Additional details as to the cultivation ~~may~~ be found in the same publication, Vol. XV, 1912.

The organisms may be observed in freshly secured material by examining a hanging drop under the dark field microscope. Special staining methods have also been devised for the differentiation of the *Treponema Pallidum* from other organisms which have a similar appearance. The technic of these staining methods is somewhat difficult, but very accurate results can be secured by the careful laboratory observer. The organisms are always present in the hard chancre. In secondary syphilis they are found in the mucous patches, a few in the rose spots and occasionally in the blood. Seldom are they found in the internal organs. In tertiary syphilis they are generally present but are few in numbers. The largest number are found, and these are observed in practically all organs, in cases of congenital syphilis. These staining methods are

used by pathologists and have proved of distinct value in establishing a correct diagnosis as well as assisting in the establishment of the reliability of the Wassermann test.

One of the greatest aids to the physician in the diagnosis of syphilis is the so-called Wassermann reaction. This is an extremely interesting laboratory procedure and one which has assisted greatly in the proper diagnosis and treatment of the disease. In 1901, Bordet and Gengou, while studying complement observed that under certain conditions the complement became fixed and was thereby made unavailable for further reaction with the materials which they were using. Wassermann and Bruck took advantage of this particular phenomenon for the diagnosis of syphilis. They observed that the blood or spinal fluid of persons suffering from syphilis contained a so-called antibody. This antibody, when brought in contact with an antigen, served to fix the native complement present in the serum. Owing to the fact that complement is readily destroyed or made inactive by heat they concluded that if a known amount of complement could be added to an inactivated serum and its specific antigen also introduced, the three substances would unite, fixing the known amount of complement. By introducing a second amboceptor and by also adding washed blood corpuscles, it could be easily ascertained as to whether the complement had been fixed or not. This reaction while appearing to be very simple, is quite complicated, as the various reagents used must be carefully prepared and standardized, and the conditions under which the test is made must be accurately controlled.

Since Wassermann first presented his serum diagnosis for syphilis many modifications have been suggested. At present a large number of antigens are in use, some being preferred by one observer and some by another. Other details of the method have also been modified to correspond with the experiences of various observers. In general, however, the original method of Wassermann is still in use.

Here again we are confronted with the problem as to the relative merits of the various methods of diagnosis. The physician must understand the limitations of the laboratory worker and should familiarize himself to as great an extent as possible with the methods in use at the laboratories where he submits specimens. With this knowledge at hand he will be much more able to interpret the results furnished him and correlate his clinical findings with the laboratory results. As has been so often pointed out, it is only by such correlation that the greatest benefits can be secured. The physician certainly must realize his limitations of diagnosis, but at the same time he should not base his conclusions entirely upon the laboratory findings.

Quite frequently a physician is unable to establish a definite history of syphilitic or gonorrheal infection; at the same time the condition of the patient is such that he is unable definitely to establish a diagnosis. He is reasonably positive that the patient is suffering from either one or the other of these two diseases. I have in mind at the present time a case which was under observation by an Ohio physician who was unable definitely to establish a diagnosis. Repeated examinations of the blood and spinal fluid gave negative results

for syphilis—nevertheless the physician was reasonably certain that the difficulties were caused by a syphilitic infection. After consultation with the patient he decided to try the syphilitic treatment, to which the patient responded very satisfactorily. Such cases as these are bound to arise but should not detract from the value of having the blood tested for syphilitic infection. It is also possible to secure false positive results by the Wassermann test. The physician, however, should become familiar with those conditions which may cause a false positive and be particularly careful not to collect blood from persons who are suffering from diseases or other conditions which may influence the examination. By co-operation between the attending physician, who has an opportunity to study the patient, and the laboratory, very satisfactory results, and results which should be of distinct value to the physician studying the case, should be secured.

FIVE PERCENT OF MEN IN U. S. HAVE SYPHILIS

It is certainly a conservative estimate, in the face of such statistics as we have, to place the percentage of syphilitics among the adult male population of the United States at more than five percent.

If syphilis is five times as frequent among men as among women, more than one percent of the women are syphilitic, and more than three percent of the entire population are syphilitic. That is, there are now approximately 1,200,000 adult syphilitics in this country. And these figures probably considerably underestimate the facts. This gives some intimation of the widespread extent of syphilis, and of its enormous importance.

It means that as a result of its late manifestations it causes in the aggregate an enormous wreckage of human life.—*W. A. Pusey, "Syphilis as a Modern Problem."*

RESOLUTIONS PASSED AT U. S. HEALTH CONFERENCE

State and territorial health officials, meeting in their sixteenth annual conference with the United States Public Health Service, at Washington in June, passed resolutions as follows:

Urging extension of Federal aid to states for improving rural sanitary conditions.

Advocating a Federal system of supervision of health in war industrial centers, to be established by co-operation of the Public Health Service with state and local health and labor authorities.

Congratulating the State of Arkansas on having its compulsory vaccination law sustained by the state supreme court.

Endorsing the Chamberlin-Kahn bill providing Federal aid for venereal disease prevention work of the states.

Recommending that the surgeon-general of the Public Health Service appoint a committee to study the problem of sanitary disposal of human excreta in unsewered communities.

Recommending that the Public Health Service ascertain by questionnaire the number of public health workers in the states who have left for Federal service and the number who probably will leave in the next few months, the results to be used as the basis of a statement by the proper authorities on the Government's attitude toward such depletion of state health organizations.

REHABILITATION OF DISEASED AND INJURED SOLDIERS DUE TO THE WAR *

MAJOR ELLIOT G. BRACKETT, M. R. C., *Washington, D. C.*

THERE has been rather an unusual plan in reference to this war in that the aftermath has been taken care of, or is being taken care of, even before it has begun. Usually the soldiers who have come back from war disabled and diseased have been cared for only by the emergency which they themselves have created. The Surgeon-General, however, this time has already anticipated that and has taken very elaborate steps toward the control and caring for these men who, we know, are coming back sometime after our part of the war begins.

It is the object and policy of the Department to consider that these men are taken into the Army and are wards of the Government. The men are taken out of civil life where they are well and wage-earners in normal civil capacities, and in the service which they are giving to the country, they are disabled. Therefore, it is the duty and the privilege of the Department of the Army to care for these men until they are put back into civil life as nearly restored physically and industrially, as possible. This means that they are to be kept under the control and under the guidance of the Army until all of this is accomplished.

To do that, plans have been laid for the early care of these men, almost at the time of the injury. Therefore, for the physical care of these men, special hospitals already have been ordered and are under

way, so that these men who are injured shall promptly have the care of those specially trained physicians and surgeons, in order to avoid the disabilities that come and have come always in wars from delay. This means an elaborate preparation for this kind of work overseas, particularly in France, and there are over there now, a large number of men who are under training and who are working with those in the English government, not only helping them out in their work, but at the same time getting the training which can be of use when they are sent over to France to work among our own American boys. When the disabled arrive in this country, there will be special hospitals to be known as Reconstruction Hospitals.

Here the men will be restored to the greatest potential degree of physical efficiency. An important factor in this work will be the supply of a very large number of artificial limbs, and steps are already under way to provide for these in sufficient numbers. It has been found that in England, where it has been more definitely studied by our people, that they are able to restore for service of those who have been sent back for repair, nearly 70 per cent to 80 per cent. When once this has been done for the soldiers, the enthusiasm that is awakened is, as they tell us, very encouraging. One of the most encouraging phases of this war is that they not only want to get back into serv-

*Delivered before the American Public Health Association, General Session, October 19, 1917, Washington, D. C. Reprinted from *American Journal of Public Health*.

ice but do get back. There are many men over there, supplied with artificial limbs, who have become aviators and many others physically disabled have gone back to the front and have taken part in actual service which is practical for them even with physical handicaps.

The physical repair is not difficult; the important element is bringing many of these men back industrially so that they can return to their civil life and still be wage-earners. This means a new aspect entirely, because with it means the passing of the word "crippled." These men who have been brought back usually have been sent into the community practically as cripples and have not been able to take part in their life again because returned really handicapped.

These men can very easily, as has often been said, be put back into places where they can fill now vacant positions, but they necessarily will be positions far less important and less to their satisfaction to maintain than those they had left. It would not be fair to take a man who had been a good mechanic, earning good wages, and ask him to take the place of a messenger or possibly an elevator man, or as some one suggested, a floor-walker. The opposite idea is exactly the one that is being followed out. That is, when a man comes back, it will be the endeavor to put him into a degree of efficiency higher than previously, so as to be returned to industrial life again to earn at least the same wage or better than before. This will result in putting the man who will be sent to an employer on a purely business basis able to earn his pay. That is the fundamental part of this plan. To do this, associated with all the hospitals, there are to be established and already are being made

some form of industrial occupation.

In the larger ones abroad there are so-called industrial workshops, and for this the better term is really "curative" workshops than industrial, because it has been found that these men can be put back into these simpler forms of industrial occupation and that used as the means of bringing them back into their life and into their health. For a simple illustration—an injured man has returned with a stiffened joint that needs a certain amount of activity to get back its strength and mobility. Instead of applying it entirely by therapeutic means, he can be given some kind of a machine that not only develops him physically but at the same time allows him to use that joint a little more each day.

In this way there is accomplished that therapeutic purpose by means of an industrial occupation which is the foundation work of industrial repair. Each one of these hospitals will be equipped with means of teaching these men the different forms of occupations, and associated with that will be facilities for employment bureaus, so that the disabled can obtain occupation in the line which he has taken up to learn. For example, if a man should come into a hospital in this part of the country and he himself lived in a place in the Western part or in the South, and it was the object to return these men as nearly as possible to their homes, we must be able to say to that man "if you will learn a certain trade, there is a place waiting for you in your town or near your town." Therefore, it is the intention to ask all of the boards of commerce and the large business men to aid the government in this portion of the work. There is one other element of this that is very important, and

perhaps the most important of all. For two or three years, or more, the importance of the re-training and bringing back of men into industrial occupations, of those who are injured, in the ordinary industrial lines, has been very apparent. The value of this military work is going to be permanent, for it is hoped it can be used or adapted to link on with this very large industrial problem which has already begun to loom up as a prominent problem in the horizon. The very shops and the very methods which will be established and can be established should be continued and carried on in the community as an industrial problem, so that, when this war is over, that part will be practically solved. Therefore, at the end of this war, it is hoped that we shall be able to hand over to the civil communities the solution of this very large problem.

It makes this work, then, not only that of meeting a very great emergency now, but it means that there will be a permanent work which will be turned over to the country at large. This is, in a few brief words, the plan which is being made to take care of these men who we know are coming back to us. The details, of course, are very elaborate, and I do not need to mention them here. I think we should bear in mind two conditions: in the first place, we hope to wipe out the idea of having cripples after this war. We are going to give all these men a fair chance to go back into their old life again. Having given part of life and body to the country, we are not going to send them back into the community as dependents, relying upon the compensation given them and the charity and good-will of the community, but as efficient and inde-

pendent citizens as before. The other point is that we are going to try to solve this problem so that the work will be of lasting benefit for industrial reconstruction.

NEW ARMY POLICY ON DISABILITY DISCHARGES

A new and more liberal policy has been adopted by the war department in reference to determining when a soldier discharged for disability shall be regarded as having suffered the injury or contracted the disease "in line of duty." This policy is announced in General Order No. 47, paragraph 2, as follows:

"Hereafter any soldier who shall have been accepted on his first physical examination after arrival at a military station as fit for service shall be considered to have contracted any subsequent determined physical disability in the line of duty unless such disability can be shown to be the result of his own carelessness, misconduct, or vicious habits, or unless the history of the case shows unmistakably that the disability existed prior to entrance into the service. The same rulings shall apply in the cases of officers who have been passed as fit for service on physical examination upon entrance into the service."

This order modifies the ruling adopted by the surgeon general's office on September 11, 1917, which provided in part that "a case of chronic tuberculosis in which the length of service is three months or less shall be considered to be not in the line of duty; cases of acute tuberculosis shall be considered to be in the line of duty in all cases, irrespective of length of service."

TUBERCULOSIS AND THE WAR: "PREVENTION IS BETTER THAN CURE"*

By LOUIS COBBETT, M. A., M. D., F. R. C. S., *Lecturer on Pathology in the University of Cambridge; Author of "The Causes of Tuberculosis"*

While tuberculosis in Great Britain has increased during the war to such an extent that its death totals for the years 1913, 1914, 1915 and 1916 stand in the proportion of 100, 104, 112 and 112, the increase need not alarm greatly those interested in the eradication of the disease. The experience of Paris during the siege of 1870-71 may reassure us. During that siege the tuberculosis rate rose enormously, and when normal conditions were restored it fell just as suddenly. Nevertheless, the present is a desirable time at which to reconsider our methods of tuberculosis control.

While the British tuberculosis death rate has declined gradually for years, there has been some dissatisfaction because the methods employed to fight the disease in recent years have not quickened this decline. This failure to change the course of the death rate is due to the fact that we have employed purely therapeutic methods, aimed at the cure of the patient and only indirectly at the prevention of the disease. The object of this article is to plead the need for keeping these two aims apart, at least in thought if not in practice.

The best treatment merely postpones death in many cases and lengthens the patient's period of infectivity. It is to be feared that the cures effected and the hygienic education of the incurable will do no more than balance the harm done by this prolongation of life.

Sanatoria in the long run do but little toward prevention, and if we over-rate their services in this direction we are in danger of wrongly believing them to be the principal equipment needed for prevention. Sanatoria are designed for treatment, not for prophylaxis. If the latter were their aim, they would seek out preferably the advanced and most infectious cases, instead of the moderately early cases which they now change from acute to chronic cases. Dispensaries and most of our other machinery also do little toward prevention.

The writer hopes he will not be misunderstood; he is not attacking these institutions, which, he recognizes, do good work in their proper sphere — the alleviation of existing suffering.

While we should keep prevention and cure apart in our thinking, it will probably be expedient to follow both aims in the same institutions. Segregation of advanced cases in institutions devoted wholly to this purpose would stir up costly hostility. Such a situation may be avoided by putting advanced cases into institutions designed for healing, where no fast line is drawn between the curable and the incurable, and the hope of recovery is common to all.

The new sanatoria, dealing with both early and advanced cases, must not compete with one another in statistics of cures but must make

*Abstract from the *British Journal of Tuberculosis*, XII, 1 (January, 1918).

efforts to get incurable cases in the most infectious stages.

This scheme will require greater sanatorium facilities than now exist, since more cases will be admitted than at present and since the period of residence will be increased. It is practical, however, because only a beginning is planned immediately. By degrees as the facilities increase and tuberculosis declines (in its normal fashion) the situation will become more manageable and the segregation of

more incurables will become possible.

- The long period of residence will make it necessary to provide industrial as well as recreative activities for inmates. The new sanatoria will develop gradually into industrial colonies. For those unable to work, glass-covered winter gardens should be liberally provided. In such institutions it seems possible to make a new beginning by directly attacking tuberculosis at its source.

CONSERVATION OF CHILD LIFE *

DR. W. J. GALLIVAN, *Member of Council, State Department of Health, Boston, Mass.*

Available statistics on infant mortality from the warring nations of Europe show a decrease in infant deaths of 50 per cent. It is also estimated that this great saving of young lives will in one generation balance the enormous losses caused by war so that in twenty years those European nations which are conserving child life will be as numerically strong as they were at the outbreak of the war, notwithstanding the immense losses reported.

Such an announcement stirs one's blood. American communities which have for years looked with complacency upon infant mortality rates in times of peace much higher than European nations are reporting in times of the world's greatest war, ought to be shamed into action.

Always a pioneer in matters pertaining to health, Massachusetts under the leadership of Dr. Allan J. McLaughlin, State Commissioner of Health, has undertaken the work of child conservation.

The commonwealth has been divided into eight health districts. Each district is presided over by a full-time district health officer. To each district has been assigned a nurse, who will be assisted by a corps of volunteer aids. This machinery will be directed by a Committee on Conservation of Child Life appointed by the State Commissioner of Health.

It is planned to make a survey of every city and town, every village and hamlet in the state. This survey will include an exhaustive study of the mortality and morbidity statistics of children under the age of five years, the generally accepted period of school age, and a compilation of the agencies in each area which provide continuous, competent medical care. This survey will disclose the conditions.

The remedy for the conditions will be applied by the Committee on Child Conservation who look upon local boards of health as their strong right arm in this venture.

The most profitable field for work is among babies during the first year of life. It is planned to use the excellent agencies already engaged in baby welfare work, and to stimulate the establishment of similar agencies in areas where little or no work is being done; and last but not least the medical profession who will be asked to refer to these agencies cases which are unable to obtain from privately employed physicians continuous, competent medical care.

In his "Four Years in Germany," Gerard says that much of the commercial success of the Germans during the last forty years is due to the fact that each manufacturer, each discoverer, each exporter knew that the whole weight and power of the government

* Read before the Massachusetts Association of Boards of Health, Pittsfield, Mass., October 25, 1917. Reprinted from *American Journal of Public Health*.

was behind him in his efforts to increase his business. So in this work of child conservation every agency engaged in baby welfare work will know that the enthusiastic coöperation and expert assistance of the State Department of Health will be behind it in its efforts to conserve child life.

The work of the committee is well under way. In some cities and towns, the survey has been completed and we are ready to go into these cities and towns and say, "In this city last year one hundred babies died. Of this number, ninety died of preventable disease. You have in this city a milk station where the feeding of infants can be supervised, but you have no facilities for expert obstetrical care, including prenatal care. It is imperative that an obstetrical clinic should be established in this city. Every effort will be made by the State Department of Health to establish this clinic either through private or municipal aid."

And so over every square foot of Massachusetts this survey will be made, the condition noted, the remedy recommended, and the solution carried into execution.

The most important factors in child conservation are prenatal care, obstetrical care, and infant feeding.

A recent report of the Children's Bureau at Washington states that 40 per cent. of infant deaths in this country occur during the first month of life.

Such a survey as we are making in Massachusetts would undoubtedly disclose the fact that such deaths in large part were due to prenatal conditions, either medical, social or industrial. De Normandie says that any physician who has several cases of eclampsia occurring in his practice is not doing good obstetrics. The early recognition of the toxæmia of pregnancy, with its appropriate treatment, has reduced the number of cases of eclampsia so considerably as to be considered one of the achievements of preventive medicine. The Wassermann test to expectant mothers has revealed conditions which under treatment has reduced the number of still births and premature babies. Legislative action alone will prevent the disasters which befall parturient women who engage in industrial pursuits either by the establishment of a minimum wage or by state aid to such women.

The minimum requirements for the proper conduct of an obstetrical case ought to be standardized by the State Department of Health. Cases which are unable to conform to the minimum requirements ought not to be cared for at home. The items which suggest themselves to me in the list of minimum requirements are careful prenatal supervision including monthly examination of urine; frequent recording of blood-pressure; pelvic measurements particularly in *primi-paræ*; and perhaps the Wassermann test. The attendance of a hospital trained nurse at time of delivery is not a luxury. Expert assistance in operative cases should be insisted upon. Such minimum attentions to the expectant mothers of the commonwealth would materially assist in lowering our infant mortality rate.

Disorders of nutrition are responsible for the lion's share of infant mortality the world over. Everybody agrees that breast fed babies never die of enteric disease. Therefore, breast feeding should be universally encouraged by attending physicians. Bottle fed babies do well only under constant supervision of competent medical men. I know of no better way of securing such competent attendance than by bookkeeping methods of death returns.

The mortality rate of children from 1 year to 5 years, the generally accepted period of school age, is principally due to communicable disease and its sequelæ. Proper enforcement of existing regulations for isolation would do much to lower this rate. Teeth and tonsils are recognized as important objects of inspection during this period. Many an arthritic case with its resulting cardiac damage would be averted by early recognition of these sources of infection.

And so, we come to the school age where medical inspection of schools should carry on this work.

Such is the program contemplated. Coördination of existing agencies; elimination of overlapping if any such exist; creation of new agencies where required; publicity of the widest kind to annihilate the superstitions and errors which have prevailed concerning the occurrence of illness; and the punch which an enthusiastic and expert central body can exercise are the weapons relied upon to bring this work to a happy consummation.

INNOCULATION OF MEN ASSISTS SEARCH FOR TRENCH FEVER CAUSE

Sixty United States soldiers, selected from among 500 volunteers, performed a notable service in the interest of military medical progress recently, when they submitted to inoculation with trench fever for experimental work in discovering means of controlling that disease. Human beings had to be used in these experiments, as it was found that the disease could not be transmitted to animals.

The experiments proved that trench fever is transmitted by the bites of body-lice and that the necessary step toward preventing it is to exterminate lice in the trenches. Trench fever placed ten percent of the British army on the sick list last year. The disease is not fatal, but incapacitates the victim for two or three months.

FOLLOW CO-OPERATIVE SCHEME IN 36 STATES

In a summary published in *Public Health Reports* June 28, it was stated that, up to the date of writing, 24 of the 48 states had completed arrangements to co-operate with the United States Public Health Service in the control of venereal disease, by having an officer of the Public Health Service assume charge of this work in the state, under the joint supervision of the state health department and the Public Health Service.

In addition to these 24 states, of which Ohio is one, it was stated that arrangements of a like nature were being completed as rapidly as possible with 12 other states whose health officials had expressed a desire for such co-operation. Two

other states have had Army medical officers assigned to take charge of their venereal disease work.

Thirty-seven states, according to this summary of existing conditions, have regulations or laws requiring reporting of venereal diseases. The states in which the co-operative plan is in operation are, in general, dealing with venereal diseases along the lines of the plan outlined several months ago by the surgeons-general of the Army, the Navy and the Public Health Service (see the *OHIO PUBLIC HEALTH JOURNAL* for January, 1918).

CALIFORNIA REPORTS

Nearly three times as many cases of gonococcus infection were reported in California during 1917 as during the preceding year. The total was 2,873 cases in 1917 against 1,091 cases during 1916. The increase in the number of cases of syphilis reported was not so marked, 1,790 cases being reported during 1917 against 1,538 cases reported during 1916. The reports of these cases of venereal disease were received from forty-five out of the fifty-eight counties of California. The only counties not reporting cases of these diseases were those of very low population in the Sierra Nevadas and other mountainous districts of the state. Nearly all of the large cities reported their cases of venereal disease regularly at the end of each week. It would appear that the old barriers of false modesty regarding the reporting of these cases are gradually breaking down, and the venereal diseases are now being placed on the same plane as any other reportable communicable disease. — *Bulletin California State Board of Health.*

Public Health Nursing Service

Report for May, 1918

	Home Visits	Other Visits	Number Patients Under Care	Number Nurses Employed
<i>Population 100,000 and over</i>				
Cincinnati (Anti-Tuberculosis League)	1,009	23	1,159	8
Columbus (Anti-Tuberculosis League)	1,001	214	1,017	6
Columbus (V. N. A.)	2,162	...	534	11
Toledo	6,123	198	4,829	19
Youngstown	1,969	6	433	9
<i>Population 25,000 to 100,000</i>				
Akron	1,062	1,790	*948	23
Canton	416	...	62	3
Lima	634	26	108	2
Lorain	204	...	37	1
Portsmouth	601	108	388	4
Springfield (City Health Dep't.)..	196	14	144	1
Zanesville (Welfare Organization)..	106	15	69	1
Zanesville (Fed'n of Women's Clubs)	106	19	24	1
<i>Population 8,000 to 25,000</i>				
Ashtabula	140	50	60	1
Bellefontaine	178	44	38	1
Cambridge	123	54	39	1
Chillicothe	269	269	37	2
Delaware	160	10	22	1
Elyria	75	23	25	1
Fostoria	27	11	...	1
Lancaster	152	27	25	1
Mansfield .....	...	69	55	2
Marietta	127	55	20	1
Marion	124	30	46	1
Massillon	283	42	63	1
Piqua	63	59	29	1
Xenia	43	39	11	1
<i>Population 5,000 to 8,000</i>				
Ashland	121	34	11	1
Circleville	150	17	48	1
Greenville	225	2	30	1
Norwalk	85	20	25	1
Ravenna	148	26	38	1
Sidney	114	37	34	1
Urbana	113	7	19	1
<i>Population 2,500 to 5,000</i>				
Cuyahoga Falls	113	29	...	1
Greenfield	80	29	19	1
Shelby	125	15	31	1

<i>Counties</i>	<i>Home Visits</i>	<i>Other Visits</i>	<i>Number Patients Under Care</i>	<i>Number Nurses Employed</i>
Hamilton	64	41	189	1
Lake	42	40	23	1
Licking (half time).....	25	12	22	1
Trumbull	134	106	151	1
Tuscarawas	64	133	68	1
Total	18,956	3,743	*10,930	120

The 9,982 patients under care were grouped as follows, according to the nature of their cases:

Communicable Diseases —	
Tuberculosis	4,359
All others	117
Maternity —	
Prenatal	159
Postnatal	171
Infants under two years of age (except eye).....	3,054
Eye —	
Infants under two years of age.....	30
All others	70
Other Diseases —	
Medical	1,477
Surgical	507
Social Service	38
Total	*9,982

* Akron's 949 patients under care were listed as 382 infant welfare, 516 tuberculosis and 50 general nursing cases. This accounts for the difference between the two totals of patients.

BILL FOR FEDERAL AID OF VENEREAL DISEASE WORK

To establish a government board of social hygiene and make permanent the present activities of the government for the control of venereal disease are objects of a bill introduced into Congress by Senator Chamberlain and Representative Kahn. The proposed board would consist of the surgeons-general of the Army, the Navy and the Public Health Service, and any other members whom these three might designate, with the secretaries of war, navy and treasury as *ex officio* members.

Provision for aiding the states by advisory measures and by financial assistance are included. The money grants would be paid to the states in amounts equal to state appropriations for venereal disease control, although for the first year the apportionment would be on the basis of state population, the "fifty-fifty" arrangement going into effect in 1919.

The sixteenth annual conference of state and territorial health officials with the United States Public Health Service, meeting in Washington in June, adopted a resolution endorsing this bill.

DEPARTMENTAL REPORTS BY DIVISIONS

DIVISION OF COMMUNICABLE DISEASES

Reported Cases of Notifiable Diseases, June, 1918

Prevalence. In order of greatest prevalence for June, the notifiable diseases list as follows, with comparative figures for May given:

Disease	Reported Cases	
	June	May
1. Whooping cough	1,635	1,341
2. Measles	1,362	2,750
3. Gonorrhea	1,215	358
4. Smallpox	610	1,214
5. Tuberculosis	606	656
6. Mumps	522	966
7. Syphilis	386	147
8. Scarlet fever	357	701
9. Diphtheria	355	335
10. Chickenpox	272	633
11. Typhoid fever	168	122
12. Measles, German	164	1,660
13. Ophthalmia neonatorum	121	134
14. Pneumonia, Acute lobar	77	238
15. Trachoma	56	22

For no other notifiable disease was a total of 50 or more cases recorded for June. Whooping cough, which was indicated to be on the increase in May, changing to third place in order of prevalence from fifth in April, is first in June. Measles, although ranking second as to prevalence, shows only half the number of reported cases for June as recorded for May. For German measles, only one-tenth as many cases as reported in May were recorded for June. The marked increases in the number of cases of gonorrhea and syphilis are to be accounted for by cases recorded from the camps and do not signify the improved general reporting of these diseases which is being insisted upon by state and federal authorities.

Smallpox. Reported cases for May, 1914, were cut in half in June, 610 cases. The highest county totals for June follow: Scioto 81 cases, Cuyahoga 68, Butler 46, Summit 44, Ashtabula 35, Henry 32, Hamilton 29, Mercer 20, Jackson and Mahoning 17 each. For no other county was a total of 15 or more cases recorded for the month.

Typhoid Fever. The reported total of 168 cases for June slightly exceeds the figure for June, 1917, 152 cases, but is below the figure for June, 1916, 281 cases. The reported cases for June of this year have been checked against death certificates, with the resultant addition of 11 cases not previously reported. The reported cases were well scattered in 62 of the counties of the state, only 20 counties reporting 3 or

more cases as follows: Adams 3 cases, Allen 4, Franklin 8, Gallia 3, Hamilton 6, Jefferson 8, Lawrence 6, Licking 3, Logan 7, Lucas 16, Mahoning 4, Medina 3, Montgomery 9, Portage 4, Scioto 8, Stark 4, Summit 3, Trumbull 3, Van Wert 5, Wayne 3.

Meningitis, Cerebrospinal. The 18 cases recorded for June were reported from cities as follows: Cleveland 12, Cincinnati 3, Massillon 1, Dayton 1, Youngstown 1.

Poliomyelitis. The seven cases were reported from the following districts: Cleveland 3, Cincinnati 1, Springfield 1, Lawrence County, Fayette Township, 2, and Scioto County, Rarden Township 1.

TABLE I. REPORTED CASES OF NOTIFIABLE DISEASES, OHIO, JUNE, 1916-1918, WITH DISTRIBUTION FOR CITIES AND FOR VILLAGES AND TOWNSHIPS, JUNE, 1918, AND CASE RATES PER 1,000 POPULATION, JUNE, 1916-1918.

Notifiable Diseases	June, 1918			June, 1917	June, 1916	June Case Rates Per 1,000 Population		
	Cities	Villages and Townships	Total*			1918	1917	1916
All notifiable diseases.....	4,339	2,130	8,009*	7,282	8,086	1.531	1.398	1.569
Chickenpox	185	87	272	483	259	.050	.093	.050
Diphtheria	255	86	355	552	350	.065	.106	.068
Gonorrhea	70	9	1,215	108	143	.231	.020	.028
Measles	985	363	1,362	2,410	4,534	.259	.463	.880
Measles, German	74	90	164	409	54	.031	.078	.010
Meningitis, cerebrospinal ..	18	.....	19	62	21	.003	.012	.004
Mumps	232	249	522	294	155	.099	.056	.030
Ophthalmia neonatorum ...	114	7	121	91	113	.023	.017	.022
Pneumonia, acute lobar....	48	20	77	145	113	.014	.028	.022
Poliomyelitis	7	5	12	25	7	.002	.004	.001
Scarlet fever	243	114	357	608	432	.067	.116	.084
Smallpox	283	326	610	445	129	.116	.085	.025
Syphilis	36	31	386	46	60	.073	.009	.011
Trachoma	54	.....	56	30	20	.010	.006	.004
Tuberculosis	501	104	606	588	582	.115	.113	.113
Typhoid fever	85	83	168	152	281	.031	.029	.054
Whooping cough	1,106	529	1,635	784	803	.310	.150	.156
Other notifiable diseases....	43	27	72	50	30	.014	.009	.006

* Reported cases from Camp Sherman and Wright Aviation Field included in total figures.

TABLE II. REPORTED CASES, TEN NOTIFIABLE DISEASES, WITH TOTAL CASE RATES PER 1,000 POPULATION, OHIO CITIES, JUNE, 1918.

City.	Total Case Rate Per 1,000 Population.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis, Cerebrospinal.	Pneumonia, Acute Lobar.	Poliomyelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
Total	1.271	3,530	255	985	18	48	7	243	283	501	84	1,106
Akron	2.409	219	22	49				36	26	28	2	56
Alliance .....	.500	10		8						1	1	
Ashland .....	.101	1									1	
Ashtabula .....	.090	2		2								
Athens .....	.670	5						2			1	2
Barberton	1.679	23	6					1	15	1		
Bellaire	1.575	25		6				7	1	1		10
Bellefontaine	10.710	102		76		1				1	6	18
Bellevue	1.956	12		1						2		9
Bowling Green....			(No cases reported)									
Bucyrus	1.378	13		2				4	5	2		
Cambridge .....	.142	2								1	1	
Canton .....	.225	15	5	2			1	2	2		3	
Chillicothe	2.142	34	19	3				7		2	1	2
Cincinnati	1.598	799	77	267	3	1	1	20	23	108	5	294
Circleville	2.812	19		19								
Cleveland .....	.854	854	53	223	12	32	3	22	51	203	2	253
Columbus .....	.656	164	1	37				70	9	16	5	26
Conneaut	5.243	49	1	40				1	7			
Coshocton			(No cases reported)									
Dayton .....	.406	58	8	4	1	3		8	4	20	7	3
Defiance .....	.544	4							2	2		
Delaware .....	.300	3							2		1	
Delphos .....	.549	3						3				
Dover .....	.262	2							2			
East Cleveland	4.209	61	1	7						3		50
East Liverpool .....	.215	5	1					3	1			
Elyria .....	.600	12	7	2					1			2
Findlay .....	.603	9						1	2	4	2	
Fostoria .....	.090	1								1		
Fremont	2.772	28		1		2		10	4	3		8
Galion .....	.139	1	1									
Gallipolis .....	.352	2							1	1		
Greenville .....	.146	1		1								
Hamilton .....	.814	37		2		2		1	32			
Ironton* .....	.280	4									4	
Jackson	1.304	8	3					3		1	1	
Kenton .....	.135	1								1		
Lakewood	1.517	37	3	9		1		1		2		21
Lancaster	1.403	23		10						3		10
Lima .....	.750	25	2	10				5	7		1	
Lorain .....	.575	23	3	3		1		3	4	4		5
Mansfield .....	.903	21	1	8				3	1			8
Marietta			(Report delinquent)									
Marion			(Report delinquent)									
Martins Ferry .....	.194	2								2		
Massillon .....	.320	5	4	1								

TABLE II. REPORTED CASES, TEN NOTIFIABLE DISEASES, WITH
TOTAL CASE RATES PER 1,000 POPULATION, OHIO
CITIES, JUNE, 1918 — Concluded.

City.	Total Case Rate Per 1,000 Pop- ulation.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis, Cerebrospinal.	Pneumonia, Acute Lobar.	Polomyelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
Middletown .....	.427	7	.....	1	.....	.....	.....	.....	6	.....	.....	.....
Mt. Vernon				(No cases reported)								
Nelsonville	1.057	7	1	1	.....	.....	.....	3	.....	1	.....	1
New Philadelphia .....	.950	10	.....	.....	.....	.....	.....	1	6	2	1	.....
Newark .....	.128	4	1	1	.....	.....	.....	.....	.....	.....	2	.....
Niles .....	.770	7	.....	.....	.....	.....	.....	.....	.....	5	.....	2
Norwalk .....	.351	3	1	.....	.....	1	.....	1	.....	.....	.....	.....
Norwood	3.708	88	2	26	.....	.....	.....	3	.....	3	1	53
Painesville				(No cases reported)								
Piqua .....	.621	9	1	.....	1	.....	.....	.....	4	2	1	.....
Portsmouth .....	.924	28	.....	.....	1	.....	.....	1	18	1	.....	7
Ravenna	1.248	8	2	6	.....	.....	.....	.....	.....	.....	.....	.....
St. Bernard .....	.158	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
St. Marys .....	.332	2	.....	.....	.....	.....	.....	.....	2	.....	.....	.....
Salem	1.485	15	.....	9	.....	.....	.....	1	.....	1	2	2
Sandusky .....	.343	7	.....	.....	.....	.....	.....	.....	.....	5	2	.....
Sidney .....	.680	5	1	2	.....	.....	.....	.....	.....	2	.....	.....
Springfield	3.040	160	1	60	.....	.....	1	.....	2	12	1	83
Steubenville .....	.315	9	1	2	.....	.....	.....	3	.....	.....	2	1
Tiffin .....	.076	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Toledo	1.140	228	12	29	.....	.....	.....	14	7	37	16	113
Troy .....	.790	5	4	.....	.....	.....	.....	.....	.....	1	.....	.....
Urbana	1.287	11	.....	6	.....	1	.....	.....	2	2	.....	.....
Van Wert .....	.645	5	.....	2	.....	.....	.....	.....	.....	.....	3	.....
Wapakoneta .....	.153	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Warren	1.332	18	1	12	.....	.....	.....	.....	1	4	.....	.....
Washington C. H. ....	.585	5	.....	.....	.....	.....	.....	.....	4	1	.....	.....
Wellston	2.175	15	.....	.....	.....	.....	.....	.....	15	.....	.....	.....
Wellsville				(No cases reported)								
Wooster* .....	.483	3	1	.....	.....	.....	.....	.....	.....	.....	2	.....
Xenia				(No cases reported)								
Youngstown	1.260	140	8	35	1	1	1	3	14	7	4	66
Zanesville .....	.155	5	.....	1	.....	.....	.....	.....	.....	2	2	.....

* Reports from Ironton and Wooster were incomplete.

Case Reports. Death certificates reveal unreported cases of notifiable diseases. It has not been possible in Ohio to check deaths against case reports until recent arrangements with the State Bureau of Vital Statistics gave to the State Department of Health information, not only as to the names and addresses of persons dying of notifiable diseases but also as to the physician in attendance. Certain local departments of health make it a practice to check reports against deaths, calling unreported cases resulting in deaths to the attention of the physician who has failed to report. All local departments should fol-

low this practice in efforts to secure complete case reports, prosecuting, if necessary, on the evidence thereby secured. The State Department of Health will hereafter likewise resort to this checking to improve reporting. It is to be hoped that few physicians will permit evidence of unreported cases to be found against them.

DIVISION OF PUBLIC HEALTH EDUCATION AND TUBERCULOSIS

Summary of Activities in June, 1918

Educational Work —

Literature distributed totaled 34,909 pieces, of which 31,728 pieces were distributed by the Division of Child Hygiene.

Three addresses were delivered by representatives of the Division.

Nineteen newspaper publicity stories were released during the month, of which the fourteen issued through the weekly News Letter attained a story circulation of 3,972,393.

A circular letter to physicians, in regard to enforcement of the venereal disease regulations, was prepared for printing, as were two four-page folders containing, respectively, the venereal disease regulations and the whooping cough regulations. Three pamphlets of the social hygiene series and the folder, "Your Baby's Eyes — How to Save Them," were in the hands of the printer.

Volume IX, Number 6 (June, 1918) of the OHIO PUBLIC HEALTH JOURNAL was prepared for the printer and a venereal disease number was planned for July. Application was made for admission of the JOURNAL to the special second-class postal rate for publications educational, scientific, etc., in their nature, under the provisions of second-class regulations effective July 1.

Requisitions for fifteen pieces of printing and bindery work were filed with the Supervisor of Printing.

Public Health Nursing Service —

Nurses appointed during the month were: Miss Katharine Wallenfelsz, Chillicothe; Miss Anza Johnson, Xenia; Miss M. Ray Lloyd, Jefferson County; Mrs. Emily D. Schmid, industrial nurse, Richardson Paper Co., Lockland. Miss Marguerite L. Binley resigned as school nurse at Findlay to join the Red Cross Nursing Service.

One hundred and forty-seven cases of inflammation of the eyes of the newborn were reported to the prevention of blindness nurse. Five cases were investigated by the Department, one was provided with nursing care and in one case instructions were given to the health officer by telephone.

Tuberculosis Hospitals —

Temporary organizations were effected for proposed District No. 7 (Tuscarawas, Carroll, Harrison, Jefferson and Belmont counties) and District No. 2 (Wood, Hancock, Seneca, Crawford and possibly Wyandot counties). Piqua residents interested in establishing a hospital for proposed District No. 10 were interviewed.

Inspections were made at Springfield, Chillicothe, Lucas County and Lima hospitals. Two meetings to discuss proposed extension of the activities of Springfield Lake Sanatorium were attended.

Notifications of hospital admissions and discharges received during the month are summarized as follows:

Ohio State Sanatorium, admissions 37, discharges 38; Butler County Sanatorium, admissions 1, discharges 0; Franklin County Sanatorium, admissions 35, discharges 31; Lucas County Tuberculosis Hospital, admissions 14, discharges 21; Dayton District Hospital, admissions 12, discharges 5; Lima District Hospital, admissions 11, discharges 14; Springfield District Hospital, admissions 14, discharges 6; Springfield Lake Sanatorium, admissions 47, discharges 43; Rocky Glen Sanatorium, admissions 6, discharges 4; St. Anthony's Hospital, admissions 5, discharges 10. Total admissions 182, total discharges 172.

Total notifications 354, referred to local public health nurses 252, referred to health departments of other states 7, investigated by Division nurses 40, histories unobtainable 22, pending investigation July 1, 33, Pending investigation June 1, 67; investigated by Division nurses 42, referred to local public health nurses 3, returned by local public health nurses 4; net total pending July 1 from May, 26. Total pending July 1, 59.

Discharged Tuberculous Soldiers —

Notifications for June, with totals since the beginning of work in behalf of discharged soldiers, are summarized as follows:

	<i>June</i>	<i>Total to July 1</i>
No. notifications received.....	153	522
No. of cases referred to P. H. N's.....	94	361
No. reports received from P. H. N's.....	25	166
No. cases written directly.....	55	156
No. of replies received.....	3	31
No. of cases visited by Division nurses.....	29	107
No. of cases admitted to hospitals.....	1	14
No. of cases not found.....	9	75
No. of cases not heard from.....	129	172

DIVISION OF LABORATORIES

Summary of Activities in June, 1918

The Division made 1,780 examinations in June, of which 1,365 were bacteriological and 415 were chemical. The bacteriological examinations, with their results, were as follows:

Tuberculosis, pos. 106, neg. 293.....	399
Diphtheria, pos. 23, neg. 146, no growth 11.....	180
Typhoid, pos. 27, neg. 39, susp. 1.....	67
Wassermann, pos. 113, neg. 427, unsat. 16.....	556
Malaria, neg. 1.....	1
Rabies, pos. 8, neg. 21, unsat. 2.....	31
Water.....	118
Sewage.....	6
Miscellaneous.....	7

Outfits were distributed in the following quantities: Tuberculosis 539, diphtheria 204, typhoid 111, malaria 21, Wassermann 415, ophthalmia 4,580, typhoid vaccine 6, miscellaneous 6, water (chemical) 19, water (bacteriological) 90, total 5,991.

The chemical samples examined included 136 specimens of foods and 39 of drugs. Results of the food examinations were: satisfactory 66, misbranded 14, adulterated 29, insufficient information 27. The 14 misbranded products included eight egg substitutes, one vinegar, one lemon extract and four miscellaneous extracts. Foods found adulterated included: milk 4, vinegar 17, vanilla extract 4, lemon extract 1, miscellaneous extracts 3. Reports on the drugs were: satisfactory 23, misbranded 8, adulterated 5, insufficient information 3. The adulterated products were one sodium salicylate, two ammonias and two miscellaneous drugs, while those misbranded included four proprietaries and four miscellaneous.

DIVISION OF CHILD HYGIENE

Summary of Activities in June, 1918

The Director held conferences with the Fairfield County child welfare chairman at Lancaster, with representatives of the Springfield health department at Springfield regarding that city's baby camp and with Cleveland health officials at Cleveland regarding supervision of baby boarding homes in the city.

District meetings of county child welfare chairmen of the Council of National Defense were attended, one at Oberlin and one at Sidney. Plans call for the holding of such conferences in other sections of the state.

The Director attended the annual meeting of the American Medical Association and of the National Association for Teachers of Pediatrics in Chicago. One meeting of the state committee on child welfare of the Woman's Committee, Council of National Defense, was held.

A large part of the Division's activities were devoted to the Children's Year campaign in the state. Literature totaling 31,728 pieces was distributed for use in this campaign.

Notifications from maternity boarding homes and lying-in hospitals give the following data for the month of June: Admissions 76, living births 37, stillbirths none, removals of mothers 47, removals of children 52, illegitimate births 24, deaths of mothers none, deaths of children 8.

DIVISION OF SANITARY ENGINEERING

Summary of Activities during June, 1918

Investigations by the Division during June dealt with eleven existing and six proposed water supplies and water purification systems, and with six existing and nine proposed sewerage and sewage disposal systems. The pollution of the Mahoning River at Girard and its effects upon the Youngstown water supply were studied. Other investigations dealt with insanitary conditions at a rendering plant, a typhoid fever epidemic at Van Wert, a proposed garbage disposal system and a case in regard to disposal of dairy wastes.

Plans of proposed sewerage and sewage disposal improvements were received from Hotel Grace, Portage County; Kidder Country Club, Montgomery County; Shaker Farm, Dayton State Hospital;

Masury, Trumbull County; Eden Township, Wyandot County; Liberty Subdivision, West Park; Butler County Infirmary, and Barberton. Plans of the existing sewerage system of the Cleveland Brass and Copper Company, Euclid, were received.

Water supply and water purification plans received covered proposed improvements and additions at Hamilton, Alliance, East Palestine, Loveland Farms (Mahoning County), and the existing system at Westerville.

Reports were submitted to the Commissioner of Health regarding proposed water purification plant for Ravenna, improvement of the public water supply at Fostoria, public water supply at Rocky River, proposed additions to the Alliance water purification plant, proposed additional water supply for Martins Ferry, proposed sewage treatment plants for Kidder Country Club (Montgomery County), Eden Township centralized school (Wyandot County) and Shaker Farm buildings at Dayton State Hospital; proposed sewerage for District No. 3, East Liverpool, and proposed sewage disposal for school at Loveland.

Seven conferences were held with engineers, city officials and others regarding sewerage and water supply matters.

A Canal Winchester ordinance prohibiting location of cesspools and privy vaults near the water plant was approved. The passage of this ordinance fulfills the first condition of the approval of a proposed new water supply for Canal Winchester, granted by the State Board of Health September 21, 1916.

Samples of the sand to be used in a sewage disposal plant at Atwater Township school, Portage County, were approved, complying with the first condition of approval of plans for the plant, as granted August 8, 1917.

The public water supply of Leipsic was approved for railroad use in the only such certificate issued. In the only refusal of such a certificate, use of the Pomeroy public water supply was disapproved.

DIVISION OF PLUMBING

Summary of Activities in June, 1918

Eighty-one inspections and five investigations were made by the Division in June. Five orders were issued, fourteen certificates of approval were granted and one recommendation was made. Five sets of plans were approved and one set was disapproved. Four conferences were held.

DIVISION OF INDUSTRIAL HYGIENE

Summary of Activities in June, 1918

The Division has undertaken a study of the coal mines in Ohio for the purpose of collecting data for the Health and Old Age Insurance Commission. Approximately 25 coal mines have been visited in the vicinities of Salem, Salineville, Leetonia, West Point, Glouster, Coshocton, Cambridge and Byesville. The types and amount of sickness, the conditions under which miners live and work, and the methods of caring for sickness and accidents, have been given particular attention.

Two cases of lead poisoning and one case of carbon disulphide poisoning have been reported during the month. In addition, 252 cases of tuberculosis among industrial workers were included in physician's reports during this time.

Fourteen requests for advice in regard to various features in connection with occupational diseases and industrial hygiene have been taken care of.

Abstracts of current industrial hygiene literature have been prepared and published in the *American Journal of Public Health*.

HEALTH OFFICERS' ROUNDTABLE

What School Head Thinks

The following comments on school health are found in the annual report of Superintendent John S. Goshorn of the Canal Fulton public schools:

"The first compulsory health measure was a success. The fact that no pupil contracted smallpox proves the value of vaccination, and no pupil will be admitted to our school next year who has not a certificate of vaccination.

"For the sake of the child's mental and physical condition those children having diseased tonsils, adenoids and weak eyes should have these defects remedied during vacation. Don't allow a pupil to be handicapped on account of a poor physique; it is not patriotic, let alone humane."

To Catch Quarantine Violators

To detect violations of whooping cough quarantine regulations, Health Officer J. H. Landis of Cincinnati has announced that he will send a district physician and a sanitary policeman on visits to motion picture theaters. The physician will seek out whooping cough cases in the audience and the policeman will arrest the person responsible for the sick child's presence. Dr. Landis discovered a case him-

self while visiting a suburban "movie" house, and thereupon adopted his new plan of campaign.

Herods of To-day

Dr. J. H. Landis, health officer of Cincinnati, has served notice on the public that his department hereafter will be most vigorous in the apprehension and conviction of people violating the city's quarantine regulations. There is no question that a great number of the contagious and infectious diseases among children are communicated in public places, such as moving-picture houses, because parents of sick children are careless of the public health. Scarlet fever, diphtheria, measles and whooping cough are among the diseases thus transmitted to children.

Dr. Landis asks the assistance of the public in the apprehension of quarantine violators. Such offenses certainly form a legitimate provocation for informing. Any man or woman who takes his or her infected child to a public place and knowingly jeopardizes the lives of other children should feel the punitive effect of our health regulations. Indeed, Dr. Landis' threat to appeal to the grand jury in the more flagrant cases is entirely justified.

It is an inhumane human being who would consciously sow the seeds of disease among children, who would engage in this modern form of the "slaughter of the innocents." — *Cincinnati Times-Star*.

Wants Certified Milk

Dr. C. T. Nesbitt, Akron health commissioner, in a recent statement through the press, urged that some farmer or dairyman near Akron go into the business of producing certified milk for use in feeding babies. He offered the co-operation of the

health department in planning and establishing such an enterprise.

Health Officers in Service

Three city health officers of Ohio recently announced their approaching departure from public health work to enter military service. They are Dr. C. W. Waggoner of Toledo, Dr. A. L. Jones of Lima and Dr. F. M. Sayre of Canton. Dr. Sayre has been commissioned a junior lieutenant in the Navy medical service. The two other health officers expect to enter the Army.

PUBLIC HEALTH NOTES FROM OVER THE STATE

Pushcart vending of ice cream is under the health department's ban in Akron, following the discovery of an old ordinance prohibiting such sales.

* * *

All persons employed in handling food in Chillicothe hotels, restaurants and boarding-houses must submit to anti-typhoid inoculation, according to a recent order from United States Public Health Service officials in charge of sanitation in the Camp Sherman zone. Physical examination of such employees has been required for some time.

* * *

Huge flytraps, manufactured from packing-boxes at a small cost, are being distributed by the hundred over Cleveland, as a feature of the city's 1918 fly prevention campaign. Cash bounties are being paid to children for killing flies.

* * *

Members of the Cambridge board of health are contributing to the newspapers of that city a series

of articles to inform the public regarding the work of the health department.

* * *

Arrangements to give free vaccination to Hamilton residents have been made by that city's health authorities.

* * *

Two men, claiming to represent the "Christian Health Institute, teachers of health, not builders of disease," collected \$45 from a Shelby County farmer on a promise to cure his sons of hip disease. When the police took a hand in the transaction, they refunded the money and departed.

* * *

The Akron health department estimates its financial needs for the year 1919 at \$113,035. This amount exceeds the 1918 appropriations by about \$35,000. Seventy percent of this increase is said to be necessary because of the addition of eighteen new employees to the department's staff.

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The Ohio Public Health Journal

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No. 8

THE DEPARTMENT'S ROLL OF HONOR

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EDITORIALS

The Whooping Cough Situation and the Local Health Officer The seriousness of the whooping cough prevalence in Ohio this year is indicated in this month's report of the Division of Communicable Diseases. With the disease passing all previous records for cases and deaths, the necessity for strict enforcement of the quarantine measures provided by the new whooping cough regulations is great.

In the past nine years whooping cough has taken a toll of 4,260 lives in Ohio, 4,085 of the victims being children under five years old. The yearly death average stands at 473 and the maximum yearly total recorded is 668 for 1913. The average of reported cases for the past five years is 8,577, with 1913 having the maximum case total of 10,064.

These records, however, are insignificant by comparison with the totals thus far recorded for 1918. Case reports for the first six months of the year numbered 6,792 and July, when all delayed reports are in, will bring the total close to 8,300. That these figures indicate an actual increase in prevalence and not merely better reporting is proved by the

death totals, which have also risen. To July 1, 406 deaths had been reported — two-thirds as many as in the entire year of 1917 and within 67 of the yearly average for nine years.

The totals, by months, for the earlier half of the present year are as follows:

<i>Month.</i>	<i>Reported Cases.</i>	<i>Deaths.</i>
January	810	48
February	899	54
March	1,141	83
April	945	71
May	1,341	80
June	1,656	70
Totals	6,792	406

There is little reason to doubt that the year's totals will exceed those for 1913, and if the situation continues as serious as it has been, the record for the twelve months will reach 14,000 cases and 700 deaths — surely a high price for a state to pay for failure to prevent a preventable disease!

The source of hope in the situation is the new regulations for the control of whooping cough, which went into effect July 1. They provide for quarantine of all cases of whooping cough and for quarantine or strict medical supervision of non-immune children who have been exposed to whooping cough; provision is made that children under quarantine may go into the streets if they wear armbands marked "whooping cough." These regulations are designed to put a stop to the indiscriminate exposure of hundreds of children to this dangerous disease which has resulted from the failure of local health authorities to adopt quarantine regulations when it was left to their discretion to do so.

Putting the regulations down on paper, however, does not accomplish automatically a decrease in whooping cough prevalence. To achieve this result, the regulations must be enforced, and the duty of enforcing them rests with the local health officials of the state. The safekeeping of the lives of hundreds of little children — 95 per cent of those dying of whooping cough are under five years old — is in their hands.

* * *

Negligence of Some Physicians Is Costing Baby Lives

A recent study of whooping cough death certificates for four months, in which these reports were checked with case reports for the same period, brought to light the fact that twenty-eight per cent of these deaths had no corresponding case reports on file. Attending physicians in twenty-eight per cent of these fatal cases

had disobeyed the regulation requiring that all whooping cough cases be reported. What proportion of the non-fatal cases for the same period was not reported is of course unknown, but it is probably even greater than twenty-eight per cent, since many light cases are not attended by physicians.

Similar studies are being made in other diseases, with like results. The whooping cough instance is cited because of the great seriousness of this disease, despite which many physicians continue to refuse to co-operate with the health authorities in checking its prevalence and thereby saving the lives of scores of children.

Reporting communicable diseases is not only a legal duty but a moral duty as well. The man who fails to make the required reports is not only breaking the law but is refusing to protect his neighbor against a serious menace.

"Who should be blamed?" is the question every doctor who doesn't report whooping cough should ask himself when he reads that four hundred babies have died of this disease thus far this year.

* * *

Why Don't Communities Prevent Preventable Baby Deaths?

Aside from the interest which the statistics on infant mortality published in this magazine may have as indicating Ohio's score to date in the baby-saving campaign, these figures teach a great lesson — that preventable diseases are responsible for a large number of baby deaths.

When pneumonia was prevalent, during the winter and early spring, the infant death rate was high. When pneumonia prevalence dropped off and enteritis failed to make a strong early start, the death rate was low. As the whooping cough epidemic developed, many babies were sacrificed to this cause. Pneumonia, enteritis and whooping cough are largely preventable, and the influence they, with other preventable diseases, exert on the infant death rate is enormous.

If babies continue to die of whooping cough during the remainder of the summer, as they died during the earlier months of the year, and if diarrhea and enteritis claim their victims by scores, as in previous years, it will be because the communities in which these babies reside are neglecting the duty of saving them.

The process of preventing a large share of the enteritis deaths is a simple one: educate mothers to nurse their young babies and to give proper food — largely milk — to older babies, and provide plenty of pure milk at a low price — free if necessary — for carrying out this direction. The means for stamping out whooping cough are provided by the new state regulations, discussed elsewhere in these columns.

Theoretically no one would estimate the value of a baby's life in dollars and cents, yet in practice communities are indicating every day that they do not consider such lives worth even the slightest expenditure.

* * *

Schools Must Be Equipped to Care for Children's Health

How well are the schools of your community adapted to the work of building up the bodies, as well as the minds, of their pupils? As the schools reopen for the winter term it will be worth any community's while to consider this question.

While the well-designed, sanitary schoolhouse has gradually been coming into its own in recent years — while medical supervision is being introduced into more and more schools each year, nevertheless the unhealthy school, whose dangers are made even greater by failure of the school authorities to exercise any physical supervision over the pupils, has by no means passed out of existence.

No school authorities should be pardoned for maintaining a school which deprives the pupils of the fresh air they need for their growth, which forces them to strain their eyes because of inadequate light, which carelessly permits them to be exposed to contagious diseases, which forces them to drink water of uncertain purity or which makes no attempt to remedy their physical defects.

School officials who wish to develop their schools along hygienic lines but are uncertain as to what is needed and how to make improvements can obtain advice on these points from the State Department of Health. The Department has a variety of literature on school topics, and will be glad to make special suggestions to fit individual cases.

Draft examinations prove that many American men are unfit for military service because their health was not properly looked after in childhood. The responsibility for such a situation must rest largely with the public schools, which, while training the pupils' minds to fit them for citizenship, have neglected their bodies — an equally important factor in performing the greatest of all the duties of citizenship.

* * *

Venereal Sufferer Forbidden to Handle Food Supplies

A method of excluding venereally diseased persons from work in food-handling establishments without the enactment of any local regulations is provided by Section 7 of the State Dairy and Food Department's "Regulations to Promote the Sanitary Condition of Food Establishments." This regulation reads as follows:

"No employer shall require, permit or suffer any person to work nor shall any person work in a building, room, vehicle or any place occupied or used for the production, preparation, manufacture, handling,

packing, storing, sale, distribution or transportation of food who is afflicted with any venereal disease, smallpox, diphtheria, scarlet fever, yellow fever, tuberculosis or consumption, bubonic plague, Asiatic cholera, leprosy, trichina, typhoid fever, epidemic dysentery, measles, mumps, German measles, whooping cough, chickenpox or any infectious or contagious disease."

Venereal disease, it will be noted, is placed on the same basis as any other communicable disease as a cause for excluding its victims from employment in handling food. Every health department should see that this regulation is properly enforced—that the syphilitic or gonococcus-infected food-handler be put under the ban as promptly as one afflicted with smallpox.

Enactment of a regulation requiring proof of health by a medical examination as a prerequisite to employment in a food establishment will make the enforcement of this existing regulation a simple matter. Many local boards have already taken action providing for such examinations, and others should fall into line.

* * *

Typhoid Prevalence Is High but Much Can Yet Be Done

Figures on typhoid fever case reports for July, as given in the report of the Division of Communicable Diseases in this magazine, do not afford a great deal of hope that this year's typhoid rate will fall to a new low record, unless we assume that local health authorities are going to do far more in typhoid prevention during the next month or two than they have done thus far.

The case total for July went as high as that for July of last year. Some of this apparent equality in prevalence between the two years may be due to more complete reporting this year, as a number of the cases recorded last month were reported only after strenuous effort on the part of the Division of Communicable Diseases. Despite this possibility, however, the decrease, if there has been one, cannot be considered large.

Far from discouraging efforts to reduce typhoid fever in Ohio, this report should merely increase our determination to bring about that result. Most important of all, remember that the month of greatest normal typhoid prevalence—and therefore the most fruitful month for preventive work—is just ahead. August normally doubles the July total, and September normally rises still more to the high mark of the year. August will be past by the time this issue of the JOURNAL reaches its readers, but much effective work can yet be done in September.

The season is late for the most possible good to be accomplished by general campaigns of sanitary improvement—this should have been done several months ago, although effort now will show up in the remaining

months of normally low prevalence and in future years. Prompt reporting of cases by physicians, however, and prompt action by health officials upon such reports can still wipe out to a large extent the grave danger of contact infection.

If the physicians who now refuse to obey the law for reporting typhoid cases will immediately turn over a new leaf, and if health authorities will institute careful supervisory methods over all typhoid cases and will carefully instruct those in charge of cases in the need for extreme cleanliness to protect other members of the household, then the threatened high typhoid death total may yet be warded off.

* * *

Be Ready for Poliomyelitis Epidemic If It Appears

An increase in poliomyelitis prevalence is becoming noticeable, although there is as yet no definite indication that the disease will reach an abnormally high total this summer. Health officials, however, should be on their guard against possible serious local outbreaks and, if they are not conversant with the latest developments in poliomyelitis prevention, should make some study of the subject.

This disease has come into prominence so recently that our experience in controlling it is somewhat limited. The fact that the period of contagion begins before the symptoms of the disease appear also causes difficulty in checking it.

The regulations prescribed by the State Department of Health for the control of poliomyelitis, however, represent our latest knowledge on the subject and should be strictly carried out in every outbreak. Steps should also be taken, when poliomyelitis appears, to acquaint parents with the precautions which should be observed to protect children from the disease. Briefly stated, these precautions are as follows:

Keep children away from all cases of sickness of any kind.

Keep them away from public gatherings, such as theaters, picnics, churches and school.

Don't take them on street cars, on trains or out of town.

Don't allow them to come into contact with persons from localities where the disease is prevalent.

Keep them at home in well-screened rooms, until the outbreak is over.

There is no need to become hysterical over poliomyelitis, as communities too often do, but preparation beforehand to meet the disease if it appears is likely to mean a much lower cost in deaths and crippled bodies than would otherwise be paid.

People Anxious to Read Sex Hygiene Booklets The demand for the three sex hygiene pamphlets recently issued by the State Department of Health, as evidenced in individual calls for copies from various parts of the state, indicates a most encouraging interest in this subject among the people of Ohio.

The three pamphlets, as announced in last month's JOURNAL, are: "Instructing Your Child in the Facts of Sex" (for parents), "Some Things a Young Man Ought to Know About Sex and Sex Diseases" (for young men and older boys) and "How Any Boy Can Develop His Health and Strength" (for younger boys).

The Department will be glad to fill further calls for these pamphlets and will appreciate the efforts of any one who is willing to help in introducing them to the people of the state.

* * *

Urban Hog-Keeping Again Calls Forth Protest The State Department of Health has recently received two complaints regarding the keeping of hogs in municipalities.

To both of these the reply was that the abatement of this or any other nuisance is a matter within the jurisdiction of the local health board only. The State Department of Health cannot legally take any action in such a matter.

This Department, however, is not bound to keep silent on the general question of hog-keeping in towns, and these letters impel it to register again an emphatic protest against the growing movement to relax the regulations against this practice on patriotic grounds.

To raise more food is indeed a patriotic purpose. This method of raising food, however, can not be carried out in an urban community without great danger to the public health. And no act which endangers the public health can be considered patriotic.

The average pigpen is an unexcelled breeder of flies, and flies are carriers of typhoid fever and of babies' intestinal disorders. Moreover, the existence of filthy pigpens can not be expected to have any effect other than a damaging one upon a community's sanitary standards. These considerations are all aside from the very apparent unpleasantness of having pigpens crowded among human habitations, for odor and other unpleasant features are not in themselves dangerous to health. When such unpleasant features are accompanied by actually dangerous features, however, we fail to see much argument for permitting pigpens.

We must keep our food supply up to its maximum point, but pork can not be valued in terms of human lives, especially when there are so many places outside of town where hogs can be raised.

Three More Department Men Enter War Service The Department has lost the services of another Division head and of two members of the staff of sanitary engineers, all of whom have gone into war service. Dr. Robert G. Paterson, director of the Division of Tuberculosis, will go to Italy with the Red Cross commission headed by Dr. R. H. Bishop, Jr., Cleveland health commissioner, to fight tuberculosis in that country. Assistant Engineers M. Z. Bair and Harry E. Miller have been granted commissions in the maintenance and repair branch of the construction division of the Quartermaster Corps of the Army—the former as captain and the latter as first lieutenant. They will do sanitary engineering work.

Congratulations upon their opportunities to be of service and best wishes for success in their new work are offered by the members of the Department staff to these new members of the honor roll as they take their departure.

* * *

Municipal Public Health Organization in Ohio In this issue of the JOURNAL is reprinted an article on "Municipal Public Health Organization," which appeared in the *Monthly Bulletin* of the California State Board of Health. Many of the comments made by the author with regard to the way California cities measure up to his ideal statement of health department activities would apply equally well to the situation in Ohio cities.

Here, too, part-time administration and inadequate appropriations cause many vital phases of public health work to be neglected. Quarantine, abatement of nuisances and registration of vital statistics in too many cities comprise practically all of the health department activities. In some cases there is in addition to these a limited amount of laboratory work, a limited amount of public health nursing service, a limited amount of food supervision and a limited amount of medical supervision of schools.

Nowhere except in a few of our largest cities will a well-rounded system of public health administration be found. Only in a few instances is there reasonably adequate epidemiological work, child hygiene work and sanitary supervision—three broad classes of health activity which must be carried on fully and intelligently if the highest degree of improvement in the public health is to be achieved.

Fifty cents per capita—the amount stated in this article as the minimum expenditure necessary to provide a city with an adequate public health administration—is certainly a sum which any community ought to be willing to spend to obtain the protection which such a health

department would afford. The health officer who can educate his community up to this point of view will be doing his constituents a great service.

* * *

Now They Blame the Poor Horse for Typhoid Fever Why we need public health education is indicated by the following choice bits of misinformation recently published:

Arthur Brisbane, the country's highest salaried editorial writer, recently informed readers of the Hearst newspapers that "the civilized world as a whole opposes the use of horseflesh, and there is usually a substantial reason for a feeling so widespread. The typhoid germ develops in the horse, not elsewhere. Man can get typhoid only from the germ that has lived in the horse's body."

And from an Ohio newspaper is taken an item to the effect that a small boy in an Ohio town, upon seeing a friend run over by a horse, fell into convulsions, which developed into typhoid fever and caused the boy's death.

Perhaps the latter example indicates that the Brisbane theory ought to be extended so as to say that not only eating horseflesh, but even seeing a horse, may cause typhoid fever. For our part, however, we shall continue to inform the public from time to time, as has been our custom, that "the typhoid germ develops only in human filth and causes typhoid fever only when swallowed."

SCARLET FEVER EPIDEMIC DUE TO MILK INFECTION

A typical milk-borne epidemic of scarlet fever was that which raged in Salem in February and March. The Salem health officials learned February 10 that a case of scarlet fever existed in the family of a dairyman in an adjoining township, who had been selling milk in Salem. It was found that the dairyman's house had been placarded by the health authorities of his township, but that he had meanwhile continued supplying milk to his customers. The milk sale was at once stopped, but the damage had been done during the preceding six or seven days.

In two or three days after the investigation and stoppage of sale, numerous reports of scarlet fever cases in Salem began to come in. The epidemic reached its height between February 25 and March 1. From February 9 to March 18, eighty-five cases were reported. Of these, sixty-five cases were in families supplied with milk by the infected dairy. Thirty-five cases were reported in three days, showing that a common carrier was responsible for the infection.

This is the first positively established milk-borne scarlet fever epidemic on record in Ohio. An epidemic in 1911 in Portsmouth was believed to be milk-borne, but the evidence was not conclusive.

Ohio's Tuberculosis Hospital Equipment

THE present year has been marked in Ohio by a great growth of interest in tuberculosis sanatoria as a necessary feature of the state's public health equipment. Since the first of the year, one new district tuberculosis hospital has been opened, two additional districts have been organized on a permanent basis and have appropriated money for hospitals and two other proposed districts have effected temporary organizations and seem about to make these permanent. From 1909 (the year the law permitting counties to join in erecting district hospitals passed) through 1917, only four such institutions were opened.

This sudden development of activity may be to some extent attributable to the growth of interest in tuberculosis and its prevention which the war has produced. The draft examinations have brought to light many previously unknown cases of tuberculosis in this country, and the magazines and newspapers have devoted much space to the increase in the prevalence of the disease in the warring nations — especially in France. It is natural that such warnings as this should make Americans take heed more fully than before of the danger which they had previously been too willing to disregard. However, it is believed by students of Ohio's tuberculosis problem that the sudden rush of interest in tuberculosis hospital establishment in the state this year is the result of several years' steady, unceasing effort to arouse such interest, as much as (if not more than) it is of war's warning.

Whatever the cause of the present favorable situation may be, the fact of most practical importance is that the situation exists and should be developed to the fullest possible extent at once. With this idea in mind, a survey of the state's present hospital equipment and of desirable and probable extensions of that equipment during the next few years is seen to be quite timely. The sketch here undertaken is of necessity somewhat superficial: many of the problems touched upon would require a separate article each for complete treatment.

Ohio has eleven public tuberculosis sanatoria in operation, providing accommodations for approximately 1,500 patients (see accompanying table for capacity of each institution). These eleven fall into four classes: one state, two municipal, three county and five district sanatoria.

The state sanatorium, located at Mt. Vernon, cares for incipient cases only. It is under the supervision of the state board of administration. Each county may have at least one patient in the sanatorium at all times. Indigent patients may be sent to the institution at the expense of their home counties, and pay patients are also received.

Municipal hospitals are maintained by Cleveland and Cincinnati, and county institutions by Lucas, Franklin and Butler counties. Any city may found a municipal tuberculosis hospital but the law permitting the establishment of county hospitals was repealed in 1913, the county hospitals which had been

established before the repeal being permitted to continue in operation. County and municipal hospitals provide for both advanced and incipient cases and receive both indigent and self-supporting patients.

Since the repeal of the county hospital law in 1913, the only way open for a county to provide an institution for the care of its tuberculous citizens has been to join with another county or other counties in forming a hospital district. This course was provided for by a law passed in 1909—and therefore in operation concurrently with the county law for four years. Under the district hospital law (Sections 3139 to 3153-7, G. C., inclusive), any group of from two to ten counties may, by voluntary action of their respective boards of commissioners, approved by the State Department of Health, organize a hospital district and proceed with the establishment of a

hospital. The choice of a site, the plans of the hospital and the estimate of cost must be approved by the State Department of Health. The same law (Section 3139) forbade the maintenance of any person suffering from pulmonary tuberculosis in a county infirmary, giving the State Department of Health authority (Section 3140) to remove any such inmate illegally kept in an infirmary and to place him in a tuberculosis hospital to be maintained at the expense of his county. The district tuberculosis hospital law, therefore, left open to the county commissioners only two courses for the care of indigent tuberculosis sufferers—to join a hospital district or to make contracts for such care with existing public or private hospitals. The law also provides a convenient means of caring for tuberculosis sufferers able to pay for treatment. In either case the public health is

STATISTICS OF OHIO'S PUBLIC TUBERCULOSIS HOSPITALS.

Institution.	Opened.	Capacity.	Capital investment.	Capital cost per bed.	Maintenance per patient-day.
Butler County	June, 1913	20	\$5,000	\$250*	?
Chillicothe District	July, 1918	32	50,000	1,560	?
Cincinnati Municipal....	July, 1897	430	500,000	1,160	1.58
Cleveland Municipal....	Oct., 1900	370	500,000	1,350	?
Dayton District	March 1, 1909..	40	125,000	3,125*	?
Franklin County	Jan. 1, 1909....	110	163,400	1,485	1.44
Lima District	Feb. 11, 1911..	50	110,000	2,200	2.10
Lucas County	March 1, 1914..	147	60,000	408*	?
Springfield District	Oct. 20, 1910..	40	45,000	1,125*	1.64
Springfield Lake District	Feb. 1, 1915....	110	305,134	2,774*	2.31
State Sanatorium	Oct. 27, 1909..	170	683,000	4,018*	1.72
Totals and averages...	.....	1,519*	\$2,546,534	\$1,629*	?

* There are 50 more beds available for public use in privately operated hospitals; there are also 212 tuberculosis beds in two state insane hospitals and the Soldiers' Home at Dayton.

† See discussion of these costs in body of article.

Map Showing Tuberculosis Hospital Organization in Ohio



promoted, by the cures which are effected in incipient cases and by the protection against infection of others which is obtained by hospitalizing advanced cases.

Almost immediately after the passage of the district hospital law, Montgomery and Preble counties opened the Dayton district hospital, taking over an institution which had been founded by the Dayton Tuberculosis Society a short time before. These two counties in the

present year replaced this pioneer institution with a new sanatorium. The second district hospital was opened at Springfield in 1910, serving Champaign, Clark, Greene and Madison counties. Van Wert, Mercer, Allen, Auglaize and Shelby counties followed in 1911 with a hospital located at Lima. The next institution was opened at Springfield Lake, Summit County, in 1915 and is maintained by Summit, Portage, Stark, Mahoning and

Columbiana counties — the largest district in the state, in point of population. The newest of the district hospitals was opened in 1918 at Chillicothe by Ross, Jackson, Pike, Scioto, Highland and Fayette counties.

The two new districts recently organized comprise, respectively, Ottawa, Sandusky, Erie and Lorain counties and Wood, Hancock, Seneca, and Crawford counties. Commissioners of the former group of counties have decided to appropriate \$125,000 for their hospital, while the latter counties will spend \$100,000. The original proposal for the former district included Huron County and that for the latter included Wyandot County, but these two counties have not yet decided to join the districts. Sites for these new hospitals have not yet been selected. When these two hospitals are established, forty or more Ohio counties will be equipped with municipal, county or district tuberculosis hospitals, and the total bed capacity available for public use in the state will be approximately 1,700. It has been estimated that 5,000 beds is a minimum statement of what the state should have to exercise a reasonably effective control over tuberculosis.

Besides these two proposed districts which have effected preliminary organizations, establishment of hospitals is being seriously considered in two other groups of counties. Tuscarawas, Harrison, Jefferson and Belmont counties have organized on a temporary basis, with Carroll considering the question of joining them. Commissioners representing Guernsey, Noble, Morgan, Monroe and Washington counties last month formed a temporary organization

also. In this latter group the purchase of the Rocky Glen Sanatorium, privately operated at McConnelsville, has been considered as a possible solution of the district's problem. Other proposed districts, in some of which there is an encouraging amount of interest in tuberculosis hospitals, are indicated on the accompanying map.

The eleven existing state, county, municipal and district sanatoria, according to as accurate an estimate as can be made in the absence of exact figures in many instances, represent a capital investment of over two and one-half millions of dollars (see the accompanying table for detailed figures by institutions). Comparison between costs of various hospitals are best made on the basis of cost per bed, and even this comparison is misleading in many instances. Butler County's hospital, for instance, while its cost is extremely low, lacks much of the equipment which is essential to efficient work, and both it and the Lucas County institution are located on infirmary ground, involving no outlay for site, power, water supply, sewage disposal, laundry, etc. The low cost of the Springfield hospital is attributable to the fact that it is housed in a former dwelling, purchased at a low price but not entirely satisfactory as a hospital structure. While the Springfield Lake cost per bed runs abnormally high on the basis of its originally designed capacity of 110, that institution has succeeded in caring for 130 patients without increasing its capital investment, making the actual cost per bed little more than half the sum stated in the table. The State Sanatorium has a heavy investment in administrative buildings and could make extensive ad-

ditions to its bed capacity with a comparatively small expenditure. The new Dayton hospital includes a power plant and service building sufficient to supply the needs of a 100-bed hospital, and will have a cost per bed of approximately \$1,750 whenever cottages are erected (costing about \$50,000) to enlarge its capacity to that figure.

The Dayton and Chillicothe costs, since these institutions are the ones most recently constructed, may perhaps be taken as the best indication of the investment necessary at present to establish a satisfactory tuberculosis hospital. In view of rising costs of construction, these figures (\$1,750 and \$1,560 per bed, respectively) are probably a little below the amount that would have to be spent now. In general the State Department of Health is advising new districts to figure on a maximum expenditure of about \$2,000 per bed. On large institutions this cost can be reduced somewhat, but it is probably a fair estimate of the cost on a moderate-sized hospital such as most districts prefer as a beginning. With the necessary administrative buildings erected, cottages can be added at a cost of about \$500 per bed.

No definite statement of maintenance cost can be made, as the hospital records are mostly incomplete in this regard. The unit for comparing maintenance cost is the cost per patient-day—the average cost of keeping one patient for one day. Such figures as are available indicate that this item amounts to not less than \$1.50 per patient-day. Two dollars is considered a more accurate estimate, taking into account the general rise in prices. Relatively low overhead costs will make the maintenance expense per patient-day, like the cost per bed,

lower in the large institution than in the smaller one. In this fact lies one of the great arguments for building district rather than county hospitals—the other important point in favor of the large institution being that it can obtain a higher grade of personnel than the small institution at a cost proportionately no greater.

The cost of constructing a hospital (capital investment) is divided among the counties of the district in amounts proportionate to their respective tax duplicates. Maintenance costs for a given year are apportioned according to the number of patient-days' treatment received by patients from each county during the year.

In the existing hospitals of the state there is no uniformity in executive and administrative organization. In theory the administrative authority rests with the board of trustees, which determines the general policies for the conduct of the institution and employs officials to put these policies into execution. There is wide variation in the distribution of executive powers among these officials and in the degree of freedom from interference by the trustees which they enjoy. In the large municipal hospitals, entire executive authority centers in the medical superintendent, who controls both the medical and the business sides of the hospital's activities, untrammelled as to methods by the trustees but responsible to them for the satisfactory carrying out of their policies. In the district and county hospitals centralization of executive authority in the superintendent is rare and there is in most cases considerable disposition on the part of the trustees to oversee in considerable detail the methods followed by executive

officials. In these institutions, the medical head is ordinarily a part-time man, and he usually controls only the medical side of the hospital, business administration being ordinarily in the hands of a matron. Each of these officials is independent of the other and responsible only to the trustees. In the Dayton district, which comprises only two counties and therefore has only two trustees, this retention of control by the trustees works well enough, because of the small size of the board. In a large district, however, such as all the other districts are, division of executive authority and detailed supervision by the trustees naturally hinder efficient management of the hospital, inasmuch as minor questions of management, which could be settled instantly by an able superintendent, must be threshed out in a meeting of a half-dozen trustees.

Passing from methods to results, one need not go deeply into the subject to see that the full purpose of the tuberculosis sanatorium is not being achieved in most cases. The hospitals are devoting a far greater share of their time to advanced, incurable patients than they are to those in the incipient, curable stages of the disease. A summary of hospital admissions during the three years 1915, 1916, and 1917, classified according to degree of advancement, gives the following statistics: early cases 580, moderately advanced 1,117, advanced 924, far advanced 511. The early cases and a certain unknown percentage of the moderately advanced cases may be considered reasonably curable; the chances for cures in the remainder of the moderately advanced and in the two other advanced classes are

slight. It is safe to say, therefore, that during the past three years more than two-thirds (possibly three-fourths would be a nearer estimate) of our hospital facilities have been devoted to the care of cases not capable of cure. The figures on discharges during the same period bear out this statement, showing that 367 cases were pronounced arrested upon discharge, 994 improved and 924 unimproved, and that 847 cases (more than twice as many as were arrested) died in the hospitals. That some of these cases pronounced "improved" would have been arrested had they remained in the institutions longer, is a reasonable assumption. The explanation for this situation, of course, is the inadequacy of our present hospital capacity; the immediate need for taking care of advanced patients causes them to be sent to the hospitals, while many in earlier stages have to remain on the waiting lists as long as they are able to support themselves. Hospitalization of advanced tuberculosis cases is a valuable public health measure, inasmuch as it removes dangerous centers of infection from the community, but the arrest of cases before they reach the stage of menace to other persons is equally important.

The preceding paragraphs outline the hospital equipment available for anti-tuberculosis work in Ohio. Roughly speaking, we may say that we have about one-third the equipment which we should have. The two main needs, therefore, to be considered in discussing the future of Ohio's tuberculosis hospitals are these: the district system of organization must be extended until every county has a share in a hospital, and the useful-

ness of each hospital in its own district must be greatly increased.

The increase in the number of districts, as has been noted, has been unusual in recent months and can be expected to continue steadily through the next few years. The accompanying map shows where the field for extension lies, and work which has already been done in some of these proposed districts has been outlined in the foregoing paragraphs. With the law making organization of a hospital district a purely voluntary matter for the counties involved, the work of the State Department of Health is of necessity confined to the spreading of propaganda to impress upon county commissioners and the general public the need for such institutions. Representatives of the Department's Division of Tuberculosis are always ready to attend joint meetings of commissioners to discuss hospital projects. Local organizations of persons interested in promoting the public health can render valuable service in arousing the public to the importance of anti-tuberculosis measures.

Extension and enlargement are means by which the hospital can increase its usefulness to the district. Enlargement of bed capacity is an obvious need in most district hospitals, the initial work having been done on a small scale with the idea of gradual development. Just how much enlargement is necessary in a given case depends upon many individual considerations. In general, however, it may be said that the minimum standard for a district hospital's capacity should be a number of beds equal to the annual total of tuberculosis deaths in the district. Figuring on the estimate of five living cases to each

death (probably much too low an estimate), the suggested minimum standard will mean that the hospital can give six months' care per year to forty percent of the cases in the district. Six months, again, is a minimum estimate of the average time which the patient ought to spend in the hospital to attain a reasonable degree of improvement, although it is more than the present average stay in Ohio. Forty percent of the existing cases is probably quite a reasonable estimate on the number which should have hospital care, both for their own protection and for that of the public. This estimate of needed bed capacity, therefore, must not be taken as a statement of the ultimate goal toward which a district should strive; it is rather a statement of the smallest amount of equipment with which the district should be content to operate for any considerable length of time.

Extension of the sanatorium within its district means the carrying out of the full intent of the district hospital law. The plan which such extension should follow is, in brief, as follows: Restriction of the district hospital's facilities to incipient cases; establishment in each county of a branch of the district hospital, under the jurisdiction of the district hospital's medical superintendent, for the care of that county's advanced cases; establishment in each county, also subject to the medical superintendent's control, of a tuberculosis dispensary, with one or more nurses attached to it. This broadening of activities should be preceded or accompanied by a reorganization of the hospital management so as to give entire executive control to a full-time medical superintendent. Such a plan of

organization has not yet been put into operation in any of the districts, although it has been urged by the State Department of Health. Organization on this basis would bring the district hospital, through its dispensaries, into close touch with tuberculosis sufferers, who would be likely to receive hospital care at an earlier stage of their disease than now. By segregating the advanced cases in their home counties, the district hospital would be made primarily a curative institution, freed from the necessity of putting applicants in incipient stages on the waiting list because of the immediate necessity for looking after the incurables. This plan of organization recognizes the twofold purpose of tuberculosis hospital work—the segregation of advanced cases dangerous to the public health and the restoration of incipient cases to health,—and makes the hospital adapt itself to this dual need. The adoption of some such plan of organization as this can be expected to take place as Ohio's district hospitals develop.

Both these principal phases of the building up of the district hospital system will be aided and supplemented by wider education of the public in regard to sanatoria and their work, by the provision of a plentiful supply of trained personnel for the hospital staffs, by the improvement and standardization of hospital records and by the continued development of thorough co-operation between the hospital managements and the State Department of Health.

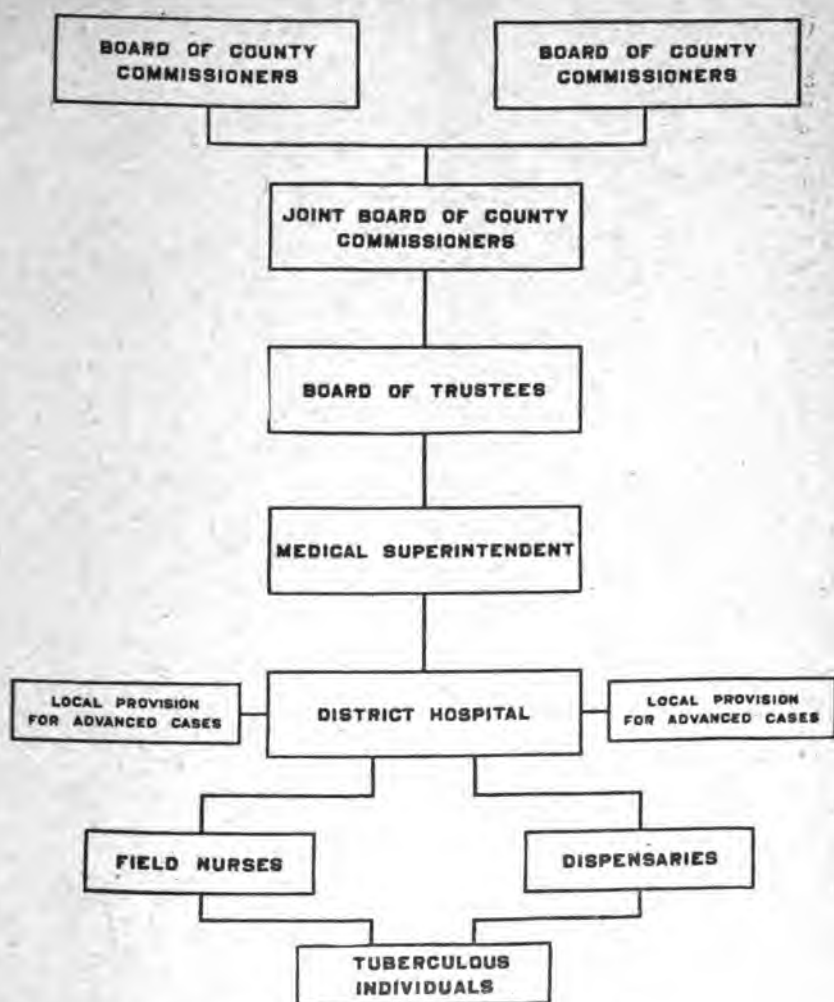
Educational methods, carried out on both a state-wide and a local scale, can be credited with much of the progress which has been made and their continuance may be expected to bring still further prog-

ress. The place of the sanatorium in an anti-tuberculosis program and the need of the state for an effectively working system of such institutions must be made clear to the public.

Provision of trained workers for the hospitals will mean that each sanatorium can have attached to it an adequate staff of physicians skilled in the diagnosis and treatment of tuberculosis, in addition to the necessary force of nurses and other employees.

Improvement and standardization of methods of keeping records is a highly important need for Ohio's sanatoria. Many hospitals are now without adequate and accurate information as to work done and as to costs. Even where such information is available, each hospital has followed its own methods of compiling data, with the result that no basis for comparisons between institutions—the only sound method of judging the work of a given hospital—can be found. With standard records, such as it is hoped may be installed soon, the State Department of Health could make compilations of statistics which would be of real value to every hospital in the state.

The installation of such a system presupposes a spirit of co-operation between the hospital staffs and the state tuberculosis workers—a spirit the further development of which has been suggested as another need in promoting the efficiency of the state's hospital equipment. This does not mean the assumption of any supervisory powers by the state over institutions now under local control. The most thorough co-operation in matters of general interest can be achieved without weakening the authority of any hospital superin-



Organization of a District Tuberculosis Hospital

The above diagram shows the ideal plan of organization, with the inter-relations of the various persons and agencies affected, as described in the article.

tendent or board of trustees. It must not be assumed, of course, that a high degree of co-operative spirit does not already exist. The conferences of hospital superintendents which are held from time to time demonstrate the willingness of the hospital heads to work to-

gether and with the state. There is still room for progress along this line as along all others, however, and all the sanatoria will benefit from any progress which is made.

This sketch of Ohio's tuberculosis hospital equipment has

brought out the facts that the state possesses or soon will possess a system of district sanatoria, together with a few institutions of other classes, which is serving about half of the counties of the state, including about three-fourths of the state's population. The success of these institutions has demonstrated the desirability of the district plan of organization and offers a better argument than any theoretical discussion for the extension and improvement of the district hospitals until the entire state is provided with hospitals adequate to care for a reasonable proportion of Ohio's tuberculosis cases and organized along lines of highest efficiency.

The state is not compelling any county to make provision for a tuberculosis hospital. It offers, however, to every county an opportunity to join in this work of great civic value. The State Department of Health is ready to give all possible advice and information to any county officials interested in the establishment of a district hospital, leaving the county free to settle the question for itself after the case has been presented to it.

GOVERNMENT HEALTH ACTIVITIES COMBINED

All health activities of the Federal Government, except the purely military health functions of the War and Navy departments and the industrial hygiene activities of the bureau of labor statistics, have been concentrated under the control of the Treasury Department, of which the United States Public Health Service is a bureau. The President's order prescribing this reorganization is as follows:

WHEREAS, In order to avoid confusion in policies, duplication of

effort, and to bring about more effective results, unity of control in the administration of the public health activities of the Federal Government is obviously essential, and has been so recognized by acts of Congress creating in the Treasury Department a Public Health Service, an especially authorizing such service "to study the diseases of man and the conditions influencing the propagation and spread thereof" and "to co-operate with and aid state and municipal boards of health":

Now, therefore, I, Woodrow Wilson, President of the United States, by virtue of the authority vested in me as Chief Executive, and by the act "authorizing the President to co-ordinate or consolidate executive bureaus, agencies, and offices, and for other purposes, in the interest of economy and the more efficient concentration of the Government," approved May 20, 1918, do hereby order that all sanitary or public health activities carried on by any executive bureau, agency or office, especially created for or concerned in the prosecution of the existing war, shall be exercised under the supervision and control of the Secretary of the Treasury.

This order shall not be construed as affecting the jurisdiction exercised under authority of existing law by the Surgeon General of the Army, the Surgeon General of the Navy, and the Provost Marshal General in the performance of health functions which are military in character as distinguished from civil public health duties, or as prohibiting investigations by the Bureau of Labor Statistics of vocational diseases, shop sanitations, and hygiene.

WOODROW WILSON.

The White House, July 1, 1918.

First Figures on 1917 Mortality in Ohio

OHIO'S death rate rose from 14.4 per 1,000 population in 1916 to 14.8 per 1,000 in 1917. The total of deaths in 1916 was 74,230 and 76,893 in 1917. Statistics for the 1917 deaths have been partially compiled by the Bureau of Vital Statistics at date of publication, and totals and rates by counties, the earliest figures available, are given in the attached table. It is expected that statistics of deaths in the cities and of deaths from separate causes will be ready for publication in the next issue of the OHIO PUBLIC HEALTH JOURNAL.

TOTAL NUMBER OF DEATHS IN EACH COUNTY IN THE STATE FOR THE YEARS 1916 AND 1917, FROM ALL CAUSES, AND THE VARIOUS DISEASES, WITH RATES PER 1,000 POPULATION.

Counties.	No. Deaths for 1916.	No. Deaths for 1917.	Rate 1916.	Rate 1917.
Adams	303	279	12.2	11.3
Allen	865	919	14.0	14.6
Ashland	352	305	14.6	12.6
Ashtabula	924	943	14.3	14.4
Athens	673	705	12.6	13.0
Auglaize	392	315	12.5	10.1
Belmont	1,241	1,254	14.3	14.2
Brown	316	328	12.7	13.2
Butler	1,119	1,112	14.2	13.9
Carroll	206	170	13.1	10.8
Champaign	383	359	14.5	13.8
Clark	1,077	1,133	15.1	15.8
Clermont	478	381	16.2	12.9
Clinton	324	292	13.7	12.3
Columbiana	1,121	1,182	13.7	14.3
Coshocton	356	322	11.6	10.5
Crawford	434	494	12.7	14.5
Cuyahoga	11,233	12,153	14.7	15.5
Darke	493	503	11.4	11.6
Defiance	329	291	13.4	11.9
Delaware	390	381	14.1	13.7
Erie	683	740	17.6	19.1
Fairfield	420	490	9.9	11.4
Fayette	267	294	12.3	13.5
Franklin	3,942	4,060	15.3	15.4
Fulton	298	284	12.1	11.5
Gallia	428	423	16.6	16.4
Geauga	195	184	13.3	12.5
Greene	465	440	15.6	14.8
Guernsey	485	493	10.1	10.1
Hamilton	7,654	7,728	15.5	15.5
Hancock	492	420	13.0	11.1
Hardin	475	401	15.6	13.2

TOTAL NUMBER OF DEATHS IN EACH COUNTY IN THE STATE FOR
THE YEARS 1916 AND 1917. FROM ALL CAUSES, AND THE VARI-
OUS DISEASES, WITH RATES PER 1,000 POPULATION — Continued.

Counties.	No. Deaths for 1916.	No. Deaths for 1917.	Rate 1916.	Rate 1917.
Harrison	206	256	10.8	13.4
Henry	238	248	9.5	9.9
Highland	398	391	13.9	13.6
Hocking	284	281	12.0	11.9
Holmes	199	221	11.1	12.3
Huron	457	482	12.9	13.5
Jackson	330	422	10.7	13.7
Jefferson	1,053	1,063	13.4	13.2
Knox	391	365	12.3	11.4
Lake	335	357	14.1	15.0
Lawrence	523	631	13.2	16.0
Licking	807	759	13.2	12.3
Logan	395	368	13.1	12.2
Lorain	1,149	1,021	12.9	11.2
Lucas	3,849	3,879	17.7	17.5
Madison	265	214	13.3	10.8
Mahoning	2,499	2,731	17.2	18.2
Marion	494	551	13.2	14.6
Medina	344	328	14.0	13.2
Meigs	330	381	12.9	14.9
Mercer	313	307	11.4	11.1
Miami	609	679	13.2	14.6
Monroe	213	231	8.8	9.5
Montgomery	3,018	3,227	16.3	17.1
Morgan	219	258	13.6	16.0
Morrow	230	195	13.7	11.6
Muskingum	829	876	13.8	14.4
Noble	222	240	11.9	12.9
Ottawa	246	288	11.0	12.8
Paulding	194	183	8.5	8.1
Perry	345	367	9.2	9.7
Pickaway	303	359	11.6	13.7
Pike	188	196	12.0	12.5
Portage	468	473	15.1	15.2
Preble	330	277	13.8	11.6
Putnam	335	303	11.2	10.1
Richland	626	671	12.6	13.4
Ross	540	598	13.5	14.9
Sandusky	464	399	13.0	11.1
Scioto	807	883	15.2	16.4
Seneca	610	633	14.1	14.6
Shelby	315	296	12.8	12.0
Stark	2,034	2,277	14.4	15.9
Summit	2,541	3,070	19.4	22.8
Trumbull	891	969	15.7	16.9
Tuscarawas	724	676	12.3	11.4
Union	272	286	12.4	13.1
Van Wert	253	264	8.7	9.1
Vinton	165	171	12.6	13.1
Warren	403	352	16.5	14.4

TOTAL NUMBER OF DEATHS IN EACH COUNTY IN THE STATE FOR THE YEARS 1916 AND 1917, FROM ALL CAUSES, AND THE VARIOUS DISEASES, WITH RATES PER 1,000 POPULATION—Concluded.

Counties,	No. Deaths for 1916.	No. Deaths for 1917.	Rate 1916.	Rate 1917.
Washington	544	538	12.0	11.8
Wayne	520	518	13.6	13.6
Williams	317	299	12.5	11.8
Wood	544	567	11.7	12.2
Wyandot	245	240	11.8	11.6
TOTALS	74,230	76,893	14.4	14.8

Insanitary Conditions Responsible for Another Rural Typhoid Epidemic

A **N**OTHER serious typhoid fever epidemic, due to the importation of a case of typhoid into a community devoid of necessary sanitary safeguards, has been investigated by the State Department of Health. The outbreak occurred at Connorville, an unincorporated community of about 250 inhabitants in Jefferson County. Conditions were similar in many respects to those prevailing in the epidemic at Coitsville, Mahoning County, investigation of which was reported in the *JUNE OHIO PUBLIC HEALTH JOURNAL*.

A representative of the Department went to Connorville July 2, after information of the outbreak had been transmitted to the Department by the health officer of Warren Township, in which the hamlet is located. Ten cases of typhoid fever had been reported to the health officer, it was learned, but five unreported cases were dis-

closed in addition to these. The fifteen cases had occurred since March 6, in three groups about one month apart: March 6 to March 22, April 28 to May 7 and June 5 to June 15. None of the cases had been reported to the State Department of Health, the call for investigation having been brought about by the superintendent of a hospital at Martins Ferry, whose wards were being crowded with typhoid patients.

The first case, appearing on March 6, was in a man whose occupation of drayman caused him to travel over the country and drink water from many sources. The second and third cases followed in his household March 22. The fourth case (April 28) and the fifth case (May 1) were in a man and wife residing at a distance from the first three cases, but indirectly connected with them by marriage. Other cases also were

scattered here and there over the community. Family relationships and an intimate degree of contact, however, were established in ten of the cases; of the remaining five cases, two were children in a household which purchased milk from the family first affected, two others were children who had been in close contact with children numbered among the first ten cases and the fifth was an older brother of one of these latter two children. Contact is therefore established as the probable source of infection in twelve of the fourteen cases which followed the first case, and either milk infection or contact in the remaining two cases—children who were in the habit of playing with the other children in the community.

Lack of sanitary precautions with regard to wells and privies makes these probable additional sources of typhoid infection also. The water supply of the community comes from wells and from a spring, all of which were found to contain *B. coli*, indicating human contamination. None of the cases could under the circumstances be definitely traced to water supply, but it is almost certain that some of these wells, after the epidemic had prevailed for some time, were capable of transmitting the disease. Carelessness in looking after patients, evidenced by the prevailing lack of cleanliness among the residents, and the presence of leaching privy vaults close to wells and usually on higher ground than the well, made the spread of the disease certain after one case was introduced.

The two later periods of the epidemic, including twelve of the fifteen cases and two deaths, would almost certainly have been avoided had proper precautions been taken

in the control of the first three cases, according to the investigator who reported upon the epidemic.

Recommendations made for the prevention of further typhoid outbreaks in Connorville included: Disinfection of all wells and abandonment of the spring, anti-typhoid inoculation of residents, improvement of wells by grading of surrounding ground to carry surface water away from the well and by installing concrete curbs and tight concrete covers to keep out surface contamination, reconstruction of all privies so as to provide water-tight vaults with flyproof superstructures and covered seats, screening of doors and windows of all houses, allowing of no person to be connected with the handling or distribution of milk or other raw food supply until he has complied with the other recommendations stated.

REPORT PUBLISHED ON SICKNESS SURVEY

A sickness survey conducted in connection with the Framingham (Mass.) health demonstration showed 6.2 percent of the population of the town to be suffering from some illness, according to their own knowledge. This figure covered all minor illnesses as well as more serious ones. Those whose illness was serious enough to make them unable to work amounted to 3.3 percent of the population, or 54.1 percent of all those reporting illness.

The survey has been reported in full in Monograph No. 2, recently published by the Community Health Station, Framington. A later publication will report the results of medical examinations in the town, affording a basis for comparisons between the amounts of recognized sickness and existing sickness.

Baby-Saving in Ohio During the Earlier Half of 1918

DURING the first three months of Children's Year 663 babies were saved in Ohio, basing comparisons with 1916 on the average three months' period in that year. The state's three months' quota is 1,128—465 in excess of the actual saving. Deaths of children under five years old during these three months totaled 3,174; for the average three months' period of 1916 the total was 3,837.

During the six months from January 1 to July 1, 1918, a saving of 683 was attained, by comparison with the average six months of 1916. The quota assigned to be saved in six months under the Children's Year program is 2,255. Children's Year did not formally open until April 1, the anniversary of America's entrance into the war.

The monthly savings for the six months were as follows (the monthly quota is 376):

January	42
February	75
March (97 loss)	97
April	21
May	165
June	477

These figures, it must be remembered, are based on averages, and therefore represent the saving as greatest in the months when infant mortality is normally low and least in the months when it is normally high. There is danger that too much credit for the apparently large savings in May and June may be given to the Children's Year

activities, when as a matter of fact a certain amount of these savings is due to the fact that the average monthly mortality is normally considerably higher than the actual totals for May and June. The truth of this statement is evident in the fact that May and June come after the period of high pneumonia mortality and before the period in which the toll of diarrhea and enteritis rises. The fact that no detailed statistics on infant mortality by months in Ohio are available, however, makes it necessary to base computations of savings on average figures.

Since the Children's Year quotas were apportioned, on the basis of the 1916 mortality in the various counties and cities, the 1917 infant mortality figures have been compiled by the State Bureau of Vital Statistics. The total of deaths under five years of age in 1917 was 15,373. In 1916 the total was 15,349. In view of this slight difference between the two years, quotas based on 1916 mortality are practically as well-adjusted to the situation as if they were based on the 1917 deaths. The second of the attached tables shows infant mortality figures by counties for both 1916 and 1917.

While the infant death *total* remained practically the same in 1917 as in 1916, the *rate* showed a decrease. In 1916, 298 children under five years old in every 100,000 of the population died—in 1917, 295 per 100,000. Deaths of children under five years old in 1916 represented 20.7 percent of

all the state's deaths—in 1917 they were 19.8 percent of the total. To attain the goal set for Children's Year, deaths of children under five years old this year must not exceed 205 per 100,000 population or 15 percent of the total deaths.

The percent of all deaths in Ohio which were deaths of children under five is shown in the following tabulation for the past nine years:

1909	23.1
1910	24.4
1911	21.7
1912	21.6
1913	22.9
1914	20.8
1915	19.8
1916	20.7
1917	19.8

If the Children's Year goal is attained, reducing the proportion of deaths which are of children under five to 15 percent, the general death rate of the state will at the same time be lowered to about 13.5. The 1916 general death rate was 14.4 and that for 1917 was 14.8.

It has been pointed out that low infant mortality rates are to be ex-

pected in May and June because of the low prevalence of pneumonia and diarrhea and enteritis. It appears to be a fact, however, upon hasty survey of the death certificates for June, that enteritis deaths were even less numerous this year than they ordinarily are in June. At the same time whooping cough was unusually prevalent and this prevalence continued through July. Whooping cough is a disease which is especially fatal to babies. The chief work which needs to be done during the summer to keep the infant mortality rate low, therefore, comes under two heads:

First, the enteritis rate must be kept down by educating mothers in proper methods of clothing and feeding their babies and by providing adequate nursing and medical care for sick babies.

Second, the whooping cough epidemic must be brought under control—a result which can be accomplished by strict enforcement by local health authorities of the new regulations for the control of whooping cough which went into effect July 1.

DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE IN OHIO, BY COUNTIES, IN FIRST SIX MONTHS OF 1918, WITH 1916 TOTALS OF SUCH DEATHS AND BABY-SAVING QUOTAS FOR 1918 BASED ON THOSE TOTALS.

County.	Deaths, 1916.	Quota to be Saved, 1918.	Deaths, 1918.							Total for six months if quota had been saved.
			January.	February.	March.	April.	May.	June.	Total six months.	
Total, State.	15,349	4,510	1,237	1,204	1,376	1,258	1,114	802	6,991	5,420
Adams	65	20	2	7	7	6	5	1	28	23
Allen	170	51	20	10	31	18	14	11	104	60
Ashland	43	12	2	4	5	2	1	1	15	15
Ashtabula	163	48	10	11	8	14	18	9	68	38
Athens	148	43	17	12	10	13	4	2	58	53

DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE IN OHIO, BY COUNTIES, IN FIRST SIX MONTHS OF 1918, WITH 1916 TOTALS OF SUCH DEATHS AND BABY-SAVING QUOTAS FOR 1918 BASED ON THOSE TOTALS — Continued.

County.	Deaths, 1916.	Quota to be Saved, 1918.	Deaths, 1918.							Total for six months if quota had been saved.
			January.	February.	March.	April.	May.	June.	Total six months.	
Auglaize	59	18	1	3	7	3	1	2	17	22
Belmont	413	120	27	22	34	24	17	10	134	147
Brown	42	12	4	4	3	1	0	3	15	15
Butler	258	75	25	27	23	13	20	8	116	92
Carroll	28	8	5	0	3	4	1	4	17	10
Champaign	52	16	3	7	7	1	3	4	25	18
Clark	177	51	9	19	21	20	13	15	97	63
Clermont	66	20	5	6	4	6	3	5	29	23
Clinton	38	11	3	5	3	4	4	2	21	14
Columbiana	252	75	17	15	22	28	20	25	127	89
Coshocton	70	21	6	3	3	2	6	3	23	25
Crawford	57	17	4	4	7	2	2	2	21	20
Cuyahoga	2,972	870	265	215	203	223	201	143	1,250	1,051
Darke	87	25	7	7	4	11	6	3	38	31
Defiance	42	12	3	3	7	5	2	3	23	15
Delaware	58	17	4	3	3	2	3	1	16	21
Erie	53	16	5	8	3	2	4	4	26	19
Fairfield	68	20	11	8	9	5	10	9	52	24
Fayette	48	14	9	4	9	3	2	6	33	17
Franklin	609	180	57	51	71	68	54	36	337	215
Fulton	47	14	2	4	1	3	1	3	14	17
Gallia	57	17	2	1	6	2	5	5	21	20
Geauga	23	7	2	3	4	1	1	1	12	8
Greene	68	20	5	3	11	10	6	0	35	24
Guernsey	123	36	9	11	11	8	8	3	50	44
Hamilton	1,218	355	106	117	136	113	108	87	667	432
Hancock	78	23	5	5	4	11	2	3	30	28
Hardin	90	26	3	3	11	5	5	1	28	32
Harrison	30	9	1	3	4	1	3	4	16	11
Henry	34	10	2	5	6	1	4	5	23	12
Highland	53	16	3	8	4	6	2	2	25	19
Hocking	67	20	3	3	9	13	3	3	34	24
Holmes	35	11	4	5	1	3	4	4	21	12
Huron	56	17	3	2	4	3	2	4	18	20
Jackson	87	25	7	11	6	9	10	2	45	31
Jefferson	371	105	35	27	35	33	25	28	183	133
Knox	59	18	11	2	5	3	3	3	27	21
Lake	58	17	5	3	3	2	4	2	19	21
Lawrence	157	46	6	15	19	15	8	7	70	56
Licking	121	35	8	7	11	11	5	5	47	43
Logan	48	14	6	4	2	4	2	2	20	17
Lorain	305	89	18	22	20	18	23	17	118	108
Lucas	895	265	59	53	62	49	60	40	328	315
Madison	52	16	3	2	6	2	2	1	16	18
Mahoning	867	254	66	65	92	81	75	46	425	307
Marion	101	29	5	10	13	9	11	6	54	36
Medina	50	15	7	2	4	2	4	3	22	18
Meigs	46	14	3	8	8	4	1	4	28	16

DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE IN OHIO, BY COUNTIES, IN FIRST SIX MONTHS OF 1918, WITH 1916 TOTALS OF SUCH DEATHS AND BABY-SAVING QUOTAS FOR 1918 BASED ON THOSE TOTALS — Concluded.

County.	Deaths, 1916.	Quota to be Saved, 1918.	Deaths, 1918.							Total for six months if quota had been saved.
			January.	February.	March.	April.	May.	June.	Total six months.	
Mercer	56	17	5	7	7	5	4	5	33	20
Miami	76	23	11	10	8	2	10	3	44	27
Monroe	37	11	2	1	4	5	4	2	18	13
Montgomery	486	142	39	39	40	34	28	20	200	172
Morgan	20	6	1	3	1	9	2	0	7	7
Morrow	29	9	1	2	1	2	4	0	10	10
Muskingum	137	40	8	10	16	10	15	3	62	49
Noble	72	21	5	4	2	4	5	1	21	26
Ottawa	47	14	5	5	4	12	3	2	31	17
Paulding	42	12	2	5	5	3	0	1	16	15
Perry	85	26	4	4	11	7	12	2	40	30
Pickaway	72	22	4	4	11	7	7	3	36	25
Pike	43	12	2	6	3	4	2	2	19	16
Portage	76	22	4	5	9	4	8	2	32	27
Preble	27	8	3	3	3	2	2	0	13	10
Putnam	60	18	8	8	5	6	4	3	34	21
Richland	103	30	9	7	7	10	5	5	43	37
Ross	105	30	7	8	10	7	11	7	50	38
Sandusky	74	22	3	7	7	7	12	0	36	26
Scioto	251	75	19	38	29	26	8	21	141	88
Seneca	74	22	7	6	6	7	10	7	43	26
Shelby	66	19	4	8	5	3	6	7	33	24
Stark	422	123	47	25	27	32	23	16	170	150
Summit	787	230	61	63	73	72	57	44	370	279
Trumbull	226	66	12	11	19	20	23	13	98	80
Tuscarawas	141	41	16	8	10	9	12	6	61	50
Union	43	13	4	2	2	4	3	1	16	15
Van Wert	45	14	3	2	4	5	5	3	22	16
Vinton	31	9	1	3	4	5	2	1	16	11
Warren	53	16	3	4	3	3	5	1	19	19
Washington	98	29	5	5	13	20	5	4	52	35
Wayne	72	22	4	7	4	7	11	6	39	25
Williams	40	12	4	1	3	6	3	1	18	14
Wood	104	30	10	12	11	5	7	7	52	37
Wyandot	29	9	4	4	4	1	0	0	13	10

DEATHS FROM ALL CAUSES FOR ALL AGES AND UNDER 5 YEARS OF AGE, WITH RATES FOR ALL AGES PER 1,000 POPULATION AND PER CENT. OF TOTAL DEATHS OCCURRING UNDER 5 YEARS OF AGE, BY COUNTIES, 1916-1917.

County.	Deaths From All Causes.				Death rates from all causes all ages per 1,000 population.		Per cent. of total deaths occurring under 5 years of age.	
	All Ages.		Under 5 Yrs.					
	1916	1917	1916	1917	1916	1917	1916	1917
Total	74,230	76,893	15,349	15,373	14.4	14.8	20.7	19.8
Adams	303	279	65	54	12.2	11.3	21.5	19.4
Allen	865	919	170	155	12.3	14.6	19.7	16.9
Ashland	352	305	42	28	14.6	12.6	11.9	9.2
Ashtabula	924	943	163	143	14.3	14.4	17.6	15.2
Athens	673	705	148	136	12.5	13.0	22.0	19.3
Auglaize	392	315	59	50	12.5	10.1	15.1	15.9
Belmont	1,241	1,254	413	373	14.3	14.2	33.3	29.7
Brown	316	328	42	37	12.7	13.2	13.3	11.3
Butler	1,119	1,112	258	265	14.2	13.9	23.1	23.8
Carroll	206	170	28	18	11.8	10.8	13.6	10.6
Champaign	383	359	52	45	14.5	13.6	13.6	12.5
Clark	1,077	1,133	177	180	15.1	15.8	16.4	15.9
Clermont	478	381	66	41	16.2	12.9	13.8	10.8
Clinton	324	292	38	41	13.7	12.3	11.7	14.0
Columbiana	1,121	1,182	252	255	13.7	14.3	22.5	21.6
Coshocton	356	322	70	40	11.6	10.5	19.7	12.4
Crawford	434	494	57	89	12.7	14.5	13.1	18.0
Cuyahoga	11,233	12,153	2,972	3,292	14.7	15.5	26.5	27.1
Darke	493	503	87	77	11.4	11.6	17.6	15.3
Defiance	329	291	42	43	13.4	11.9	12.8	14.8
Delaware	390	381	58	40	14.1	13.7	14.9	10.5
Erie	683	740	53	70	17.6	19.1	7.8	9.5
Fairfield	420	490	68	80	9.9	11.4	16.2	16.3
Fayette	267	294	48	68	12.3	13.5	18.0	23.1
Franklin	3,942	4,060	609	619	11.0	15.4	15.4	15.2
Fulton	298	284	47	46	12.1	11.5	15.8	16.2
Gallia	428	423	57	41	16.6	16.4	13.3	9.7
Geauga	195	184	23	21	13.3	12.5	11.8	11.4
Greene	465	440	68	66	15.6	14.8	14.6	15.0
Guernsey	485	493	123	115	10.1	10.1	25.3	23.3
Hamilton	7,654	7,728	1,218	1,096	15.5	15.5	15.9	14.2
Hancock	492	420	78	59	13.0	11.1	15.9	14.0
Hardin	475	401	90	62	15.6	13.2	18.9	15.5
Harrison	206	256	30	29	10.8	13.4	14.6	11.3
Henry	238	248	34	38	9.5	9.9	14.3	15.3
Highland	398	391	53	52	13.9	13.6	13.3	13.3
Hocking	284	281	67	56	12.0	11.9	23.6	19.9
Holmes	199	221	35	44	11.1	12.3	17.6	19.9
Huron	457	482	56	62	12.9	13.5	12.3	12.9
Jackson	330	422	87	115	10.7	13.7	26.4	27.3
Jefferson	1,053	1,063	371	305	13.4	13.2	35.2	28.7
Knox	391	365	59	38	12.3	11.4	15.1	10.4
Lake	335	357	58	47	14.1	15.0	17.3	13.2
Lawrence	523	631	157	173	13.2	15.0	30.0	27.4

DEATHS FROM ALL CAUSES FOR ALL AGES AND UNDER 5 YEARS OF AGE, WITH RATES FOR ALL AGES PER 1,000 POPULATION AND PER CENT. OF TOTAL DEATHS OCCURRING UNDER 5 YEARS OF AGE, BY COUNTIES, 1916-1917 — Concluded.

County.	Deaths From All Causes.				Death rates from all causes all ages per 1,000 population.		Per cent. of total deaths occurring under 5 years of age.	
	All Ages.		Under 5 Yrs.					
	1916	1917	1916	1917	1916	1917	1916	1917
Licking	807	759	121	111	13.2	12.3	15.0	14.6
Logan	395	368	48	43	13.1	12.2	12.2	11.7
Lorain	1,149	1,021	305	250	12.9	11.2	26.5	24.5
Lucas	3,848	3,879	895	789	17.7	17.5	23.3	20.3
Madison	265	214	52	40	13.3	10.8	19.6	18.7
Mahoning	2,499	2,731	867	945	17.2	18.2	34.7	34.6
Marion	494	551	101	100	13.2	14.6	20.4	18.1
Medina	344	328	50	34	13.9	13.2	14.5	10.4
Meigs	330	381	46	54	12.9	14.9	13.9	14.2
Mercer	313	307	56	66	11.4	11.2	17.9	21.5
Miami	609	679	76	105	13.2	14.6	12.5	15.5
Monroe	213	231	37	43	8.8	9.5	17.4	18.6
Montgomery	3,018	3,227	486	484	16.3	17.1	16.1	15.0
Morgan	219	258	20	24	13.6	16.0	9.1	9.3
Morrow	230	195	29	20	13.7	11.6	12.6	10.3
Muskingum	829	876	137	118	13.8	14.4	16.5	13.5
Noble	222	240	72	50	11.9	12.9	32.4	20.8
Ottawa	246	288	47	49	11.0	12.8	19.2	17.0
Paulding	194	183	42	30	8.5	8.1	21.7	16.4
Perry	345	367	85	91	9.2	9.7	24.6	24.8
Pickaway	303	359	72	63	11.6	13.7	23.8	17.5
Pike	188	196	43	41	12.0	12.5	22.9	20.9
Portage	468	473	76	67	15.1	15.2	16.3	14.2
Preble	330	277	27	45	13.8	11.6	8.2	16.2
Putnam	335	303	60	64	11.2	10.1	17.9	21.1
Richland	626	671	103	103	12.6	13.4	16.5	15.4
Ross	540	598	105	102	13.5	14.9	19.4	17.1
Sandusky	464	399	74	50	13.0	11.1	15.9	12.5
Scioto	807	883	251	285	15.2	16.4	31.1	32.3
Seneca	610	633	74	96	14.1	14.6	12.1	15.2
Shelby	315	296	66	51	12.8	12.0	21.0	17.2
Stark	2,034	2,277	422	451	14.4	15.9	20.7	19.8
Summit	2,541	3,070	787	962	19.4	22.8	31.0	31.3
Trumbull	891	969	226	217	15.7	16.9	25.4	22.4
Tuscarawas	724	676	141	130	12.2	11.4	19.5	19.2
Union	272	286	43	33	12.4	13.1	15.8	11.5
Van Wert	253	264	45	36	8.7	9.1	17.8	13.6
Vinton	165	171	31	38	12.6	13.1	18.8	22.2
Warren	403	352	53	49	16.5	14.4	13.2	13.9
Washington	544	538	98	76	12.0	11.8	18.0	14.1
Wayne	520	518	72	78	13.6	13.6	13.8	15.1
Williams	317	299	40	32	12.5	11.8	12.6	10.7
Wood	544	567	104	125	11.7	12.2	19.1	22.0
Wyandot	245	240	29	29	11.3	11.6	11.8	12.1

Municipal Public Health Organization*

By Allen F. Gillihan, M. D., State District Health Officer,
Santa Rosa, Calif.

In order to understand the health and sanitary problems of a city of 35,000, it is first desirable to outline the process of an ideal health department, thus forming a basis with which to evaluate the actual work done in the average city of this size and on which to build an efficient department. These may be briefly registered as follows:

Health Department Functions

I—CONTROL OF COMMUNICABLE DISEASES.

1. Obtaining knowledge of cases —
 - a. Reporting.
 - b. Field investigation.
 - c. Laboratory diagnoses.
2. Control of patients and contacts.
3. Epidemiological investigations.
4. Release of patients and contacts.
5. Morbidity statistics.

II—CONSERVATION OF CHILD LIFE.

1. Supervision of child's early life.
 - a. Prenatal supervision —
 - Guidance of prospective mothers.
 - Supervision of midwives.
 - Supervision of maternity homes.
 - b. Care of the newborn —
 - Postnatal care.
 - Birth registration.
 - Control of ophthalmia.
 - c. Infant care —
 - Supervision of baby and child farms.
 - Supervision of orphan asylums.
 - Baby week campaigns.
 - Little mothers' clubs.
2. Supervision of children of school age with regard to mental and physical development.
3. Supervision of child labor.

III—FOOD SUPERVISION.

- | | | |
|---------------|---|--|
| 1. Milk | { | Registration of producers and dealers, supervision of plants and products by field inspectors and laboratory examinations. |
| 2. Foodstuffs | | |
| 3. Meats. | | |

IV—SANITARY SUPERVISION.

- | | | |
|--|---|---|
| Water supplies | { | Field work and laboratory investigations. |
| Sewage disposal | | |
| Housing conditions. | | |
| Industrial conditions. | | |
| Wastes and refuse disposal. | | |
| Elimination of insects and animals transmitting disease. | | |

V—VITAL STATISTICS.

- Birth registration.
- Death registration.
- Burial registration.

* Reprinted from the California State Board of Health *Monthly Bulletin*, XIV, 1 (July, 1918).

We find in the average city that we have a part-time health officer who is usually engaged in active practice. He can not enforce health measures without creating antagonism amongst his professional brethren, and amongst his own patients to the detriment of his practice; therefore we find him doing as little as possible.

In the control of communicable diseases we find lax reporting, and more lax supervision. The quarantinable diseases are placarded, but the complaints of the public are depended upon to secure observance of the quarantine regulations. No epidemiological investigation is undertaken, and the unnecessary expense of fumigation is indulged in. The quarantining and fumigating are very frequently done by the plumbing inspector, or sanitary inspector, as a side issue to his regular duties.

The health officer usually makes no examination for release from quarantine or isolation. He invariably neglects the minor diseases, makes no tabulations other than those required by the state board, and is unable to work out a morbidity rate; in fact, I doubt if he knows what such a thing is.

In the conservation of child life, with possibly the exception of medical inspection in schools, practically nothing is being done in the average city. We frequently find baby week campaigns have been held; these are usually fostered by mothers' clubs of the city, but this very good work is not followed up by the health department. No supervision of midwives, maternity homes, or homes for children is undertaken, except possibly the registration of midwives. (Under the present laws of California anybody can be a midwife.)

Birth registration is not actively enforced, so no determination can be made of infant mortality rates. Nothing is done about child labor.

Under food supervision we very frequently find more activity shown than in any other department. A milk inspector, and frequently a food inspector, will be found, and occasionally stock is inspected at the time of killing.

Sanitary supervision is usually reduced to the abatement of nuisances, and is a very secondary part of the work of the plumbing inspector.

A laboratory is usually maintained for the examination of swabs for diphtheria and sputum for tuberculosis for diagnoses. Bacterial and chemical examination of milk is also done, but we find as little as possible is done where the pay is part time and there is no incentive to increase the amount of work.

Public Health Bookkeeping

Under office detail we usually find a clerk whose duties are about equally divided between receiving reports of cases of communicable diseases from physicians, ordering quarantines and fumigations, receiving and registering birth certificates, death certificates, issuing burial permits, answering 'phone kicks, issuing permits for milk, meat, and other vendors, and making reports to the State Board. No bookkeeping of public health is done, therefore no information is available which would show the health situation of the city. An annual report is usually not prepared. "Bookkeeping of Public Health" is a very good term borrowed from Irving Fisher. A city which does not do such bookkeeping is on a par with the business

which is run for cash only, and which does not maintain an efficiency record, so no comparison with previous years is possible. They can not tell whether an individual department is going ahead or falling behind, or whether the business is succeeding or failing; such is the situation in the average city of today.

Plumbing inspection is usually imposed upon the health department; this should be turned over to the building department.

Nuisance abatement should be under the control of the police department, and garbage disposal should be taken care of by the department of public works.

Passed Assistant Surgeon Paul Preble, of the United States Public Health Service, last year completed a survey of 330 cities in the United States. He found that the average city of from 25,000 to 50,000 inhabitants spent an average of 24.6 cents per capita per year on public health and that the health officer received an average of \$100 per month.

"Public Health Is Purchasable"

Public health is as purchasable as any other commodity. For example, in the construction of the Panama Canal, it was necessary to pay a very high price for public health—\$3.65 per capita per annum. Consensus of opinion of those competent to discuss the matter gives 50 cents per capita per annum as the amount necessary to maintain an efficient health control of a city from 20,000 to 35,000. That would mean an expenditure of \$17,500 per annum for health protection. This, of course, bars unforeseen emergencies, and does not include such activities as gar-

bage collection, plumbing inspection, maintenance of city pound, etc., but it relates only to expenditures on public health activities which have been outlined.

Where a city has been spending from \$8,000 to \$9,000 per annum and securing a department that is probably 50 to 70 per cent efficient, and they are asked to spend \$17,000, they would either ignore the request, or raise an awful storm of protest. How can we demonstrate such expenditure to be warranted? For example, examine the death records of your city for deaths from typhoid fever; remember the death rate of typhoid is under 10 per cent; that is, for every ten reported deaths from this disease there must have been over 100 cases; more than likely less than one-half of these were ever reported. Ascertain the expenses incurred for nurse, medicine, hospital, and funeral expenses for these cases that have died. Ascertain or determine the expenses incurred for the cases that have recovered, and as I have said before, we have nine times as many recoveries as we have deaths. Determine the financial loss in wages during illness and long convalescence of those that have recovered; have been only two or three deaths from typhoid in your community, you will find that enough money has been lost to pay for your health department several times over.

Seriousness of Whooping Cough

Or again, consider the so-called minor diseases, say whooping cough. Possibly no actual money was spent or time lost while baby had whooping cough, still I know of a family where many hundreds

of dollars were spent on hospital, physicians, nurses and medicines during the eight or ten years following an attack of whooping cough in a small child, which was contracted in a small town where no control was exercised over this disease; this case is not unique. In figuring the expense from whooping cough, the medical expense and funeral bills in deaths from whooping cough should be included. Whooping cough in children under two kills more than all other communicable diseases put together.

Again, if some article be purchased in a foreign land, a large freight bill paid, and after the article has been received, it is unfortunately broken while being adapted to the purpose for which it was purchased—the purchase price, the freight bill, to say nothing of the time and disappointment, would all be considered an irrevocable loss. The same is true in all deaths from communicable disease in childhood. For all money spent during the life of each fatal case, all money spent for the mother's care during her pregnancy and at the time of her child's birth, should be included, because it represents something just as irrevocably lost as the article purchased in the foreign land. Many other examples could be mentioned, the items of which could be easily enumerated, but considerable work would be required to determine the actual money expended.

If your citizen is willing, and does actually spend \$1.50 per capita per annum for fire protection, and \$1.00 for police protection for mere property, surely he should be willing to spend 50 cents per capita for life and health protection.

Effect of War Sanitation

Today many, many thousands of our young men are "over there" and in army cantonments. They are receiving instruction not only in the arts of war, but also in the arts of peace. Sanitation plays a greater part in the present war than ever before in the history of the world, and the sanitation of camps today is the most efficient the world has ever known. The greater number of these men will in time return home, and when they do so, they will demand that typhoid be eliminated, that better sanitary conveniences be supplied; in short, they will demand that the sanitary efficiency of the army camp of today be maintained in their civilian homes of tomorrow. Speed the day they return!

How shall we organize our health departments to do all of these things which we have outlined, and at the same time keep within the estimated 50 cents? First, by employing a health officer trained and experienced in public health, and one who devotes his entire time to the duties of his office; \$2,400 per year should secure such a person for a city the size we have in mind. He should be supported by a corps of experienced or trained public health nurses. A city of 35,000 gives a population of about 7,000 children of school age. In the organization of Health District No. 1 in New York City, three nurses were assigned to an estimated school population of 7,000. Besides school inspection and visits, these nurses do a great deal of district nursing work, taking up baby welfare work and prenatal guidance, control of communicable diseases, and sanitary supervision; therefore I would suggest that a minimum number of three nurses

be employed in our suggested department at a salary not less than \$100 per month. To have control of meat and milk inspection, a veterinarian should be employed on full time at a salary not less than \$1,200 per year. A housing inspector, trained in housing, sanitation and social problems, at the same salary. An office force of secretary and stenographer at a minimum salary of \$75 and \$64 per month, respectively.

Compensation for Skilled Workers

Laboratory. It is difficult to obtain a person trained in chemistry and bacteriology of public health without offering adequate pay; \$150 per month would be a minimum rate. There would not be enough work in a city of this size to keep such a person busy all the time, so he could devote part of his time to foodstuffs and to food establishments; for the laboratory he would receive \$100 per month, and for the food inspection \$50. An untrained laboratory assistant at \$50 per month would be found necessary to make media, wash glassware and other menial work.

Field workers should be supplied with automobiles of the Ford type; this would increase their efficiency fully 50 per cent. With the upkeep of automobiles, laboratory supplies, maintenance items, such as office supplies, printing and other sundry items, the health officer would be compelled to figure very closely in order to come within the suggested appropriation.

With such an organization it would be possible to reduce communicable disease to the minimum; to secure the reporting of all births; to maintain close supervision of child life from before birth to the

end of the school period; to build up a first-class milk inspection service; to supervise the production of meat and other foodstuffs; to have a laboratory that would be of inestimable value to the physicians of the community; to carry on a continuous campaign of education; and finally, to have a system of public health bookkeeping, from which at all times could be determined the health situation of the community, as well as the efficiency of the public health work in all departments.

ARMY LOWERS DEATH RATE FROM DISEASE

Annual rates for deaths in battle and deaths from disease among the American Expeditionary Forces were exactly equal for the first ten months of American participation in the war, according to figures compiled by the War Department. Both rates stood at 8 per 1,000 per year.

In previous wars of the United States the deaths from disease have far exceeded the deaths in battle. In the Mexican War 15 per 1,000 died annually in battle and 110 from disease. In the Civil War the rates were: 33 in battle, 65 from disease; in the Spanish War: 5 in battle, 26 from disease.

Statistics of the French and British armies for four years of the war, as given out in a statement from the American chief of staff, show that only fewer than one in twenty wounded men sent to hospitals die. The average of British and French statistics is as follows: Returned to service, 810 per 1,000 wounded; discharged from service because of physical disability or other cause, 145 per 1,000; died from wounds, 45 per 1,000.

Public Health Nursing Service

Report for June, 1918.

	<i>Home Visits.</i>	<i>Other Visits.</i>	<i>Number Patients Under Care.</i>	<i>Number Nurses Employed.</i>
<i>Population 100,000 and over —</i>				
Cincinnati (Anti-Tuberculosis League)	811	.....	1,265	8
Columbus (Anti-Tuberculosis League)	812	128	1,046	6
Columbus (V. N. A.)	2,132	.....	769	11
Dayton	2,919	.....	961	10
Toledo	6,614	229	4,966	24
Youngstown	1,832	8	385	10
<i>Population 25,000 to 100,000 —</i>				
Akron	1,606	2,515	1,301	23
Canton	445	.....	50	3
Lima	639	27	139	2
Lorain	214	.....	39	1
Portsmouth	534	57	271	4
Springfield (City Health Dept.)	237	6	172	1
Zanesville (Welfare Organization) ..	81	12	69	1
Zanesville (Federation of Women's Clubs)	111	19	28	1
<i>Population 8,000 to 25,000 —</i>				
Ashtabula	60	30	8	1
Bellaire	132	17	.....	1
Bellefontaine .....	.....	22	41	1
Bucyrus	120	22	18	1
Cambridge	169	24	32	1
Chillicothe	540	5	85	2
Delaware	247	6	25	1
Fostoria	24	7	20	1
Lancaster	50	8	27	1
Mansfield .....	.....	64	49	2
Marion	117	49	42	1
Massillon	371	61	83	1
Piqua	100	47	36	1
<i>Population 5,000 to 8,000 —</i>				
Ashland	77	8	11	1
Circleville	174	9	57	1
Greenville	190	1	18	1
Norwalk	139	20	35	1
Ravenna	141	15	39	1
Sidney	133	72	35	1
Urbana	77	3	17	1
<i>Population 2,500 to 5,000 —</i>				
Cuyahoga Falls	80	15	21	1
Greenfield	40	24	22	1
Shelby	187	.....	52	1

<i>Counties—</i>	<i>Home Visits.</i>	<i>Other Visits.</i>	<i>Number Patients Under Care.</i>	<i>Number Nurses Employed.</i>
Hamilton	73	34	195	1
Huron	164	90	.....	1
Jefferson (half month).....	18	.....	5	1
Lake	54	46	43	1
Licking (half time).....	21	11	23	1
Trumbull	128	109	159	1
Tuscarawas	68	124	79	1
Totals	22,681	3,944	12,738	137

The 12,738 patients under care were grouped as follows, according to the nature of their cases, with the exception of 2,297 patients, 996 of whom were "not listed" and 1,301 of whom (Akron) were listed as 558 tuberculosis patients, 713 child welfare, and 30 general nursing service:

Communicable Diseases—

Tuberculosis	4,532
All others	102

Maternity—

Prenatal	171
Postnatal	170

Infants under two years of age (except eye)..... 3,367

Eye—

Infants under two years of age.....	23
All others	76

Other Diseases—

Medical	1,549
Surgical	356

Social Service

Total 10,441

GIVE EXPERT ADVICE ON SANITARY BOND ISSUES

The United States Public Health Service has promised to assist the Capital Issues Committee by furnishing it information in regard to municipal bond issues for sanitary purposes which the committee may be asked to approve. Expert advice in regard to the other three important classes of municipal

capital expenditures—road improvements, school buildings and public buildings—is being furnished to the committee by other government departments and bureaus.

To prevent injurious competition with the Liberty Bond issues by postponing all non-essential bond issues, the Capital Issues Committee has been given power to review all proposals for capital issues.

DEPARTMENTAL REPORTS BY DIVISIONS

DIVISION OF COMMUNICABLE DISEASES

Reported Cases of Notifiable Diseases, Ohio, July, 1918

Prevalence. In order of greatest reported prevalence during the month of July, the notifiable diseases list as follows with comparative figures for June given:

<i>Disease.</i>	REPORTED CASES.	
	<i>July.</i>	<i>June.</i>
1. Whooping cough.....	1,612	1,733
2. Gonorrhea	688	1,223
3. Measles	679	1,450
4. Tuberculosis, all forms.....	501	655
5. Smallpox	341	628
6. Diphtheria	322	361
7. Mumps	282	580
8. Syphilis	264	387
9. Scarlet fever	243	399
10. Typhoid fever	206	192
11. Chickenpox	172	281
12. Ophthalmia neonatorum	114	121

For no other one notifiable disease was a total of 100 or more cases reported for July. For the twelve diseases listed in order of prevalence, the July total is 5,424 compared with June's total of 8,010 reported cases, marked decrease in reported prevalence occurring for all diseases with the exception of typhoid fever, which shows an increase in July over June of 14 reported cases, making the total for typhoid fever practically the same as for July last year (Table I).

Whooping Cough. For both July and June whooping cough has headed the list of greatest reported prevalence. Delinquent reports for July will probably bring the month's figure in excess of June's total. A rapid checking of deaths from whooping cough for the first six months of this year places the number as high as 406. Reported cases for the six months total 6,869 and, with July added, 8,481—only 244 fewer than reported for the whole of last year.

Smallpox. From the cities were reported 178 of the 341 cases for the month (Table II), Cleveland reporting the largest number, 37 cases. For Hamilton, the 18 reported cases, for Lima and Bucyrus, the 12 cases each, continue the high case rates of several months for these cities.

Diphtheria. Although the July reported cases number only 322, health officers should bear in mind that this disease may be expected to increase in prevalence during succeeding months as past records indicate. For five years July's average of reported cases has been 385, increases continuing to the month of October with an average of 1,470 reported cases and with gradual decreases thereafter until spring.

Meningitis, Cerebrospinal. The 18 reported cases occurred by counties as follows: Athens 1, Belmont 1, Cuyahoga 4, Hamilton 2, Lucas 3, Mahoning, Medina, Meigs, Montgomery, Perry, Ross and Summit 1 each.

Poliomyelitis. Table 1 shows the total for July—31 reported cases—well below the two past years' figures for the month—50 and 100 reported cases. From the northeastern and southwestern parts of the state have been reported the largest number of the cases, 15 in the one and 13 in the other section. By districts, the cases were recorded as follows: Cincinnati 13, Cleveland 5, Canton, Niles, Youngstown and Weathersfield Township, Trumbull County, 2 cases each; Akron, Toledo, Warren, Willoughby Township, Lake County, and Hopewell Township, Perry County, 1 case each.

TABLE 1—REPORTED CASES OF NOTIFIABLE DISEASES, OHIO, JULY, 1916-1918, WITH DISTRIBUTION FOR CITIES AND FOR VILLAGES AND TOWNSHIPS JULY, 1918, AND CASE RATES PER 1,000 POPULATION, JULY, 1916-1918.

Disease.	July, 1918.			July, 1917.	July, 1916.	July Case Rates Per 1,000 Popula- tion.		
	Cities.	Villages and Townships.	Total.*			1918	1917	1916
All Notifiable Diseases....	3,463	1,509	5,669*	4,359	4,783	1.077	.837	.928
Chickenpox	137	31	172	172	162	.033	.033	.031
Diphtheria	257	58	322	416	297	.061	.080	.057
Gonorrhea	229	36	688	61	140	.131	.012	.027
Measles	488	162	679	690	1,567	.129	.132	.314
Measles, German.....	17	22	39	79	35	.007	.015	.007
Meningitis, Cerebrospinal.	13	5	18	34	20	.003	.006	.004
Mumps	110	135	282	136	54	.054	.026	.010
Ophthalmia Neonatorum..	108	6	114	137	120	.022	.026	.023
Pneumonia, Acute Lobar.	43	11	77	68	69	.015	.013	.013
Poliomyelitis	27	4	31	50	100	.006	.009	.019
Scarlet Fever.....	153	89	243	331	256	.046	.064	.050
Smallpox	178	161	341	351	105	.065	.067	.020
Syphilis	107	5	264	43	65	.050	.008	.012
Trachoma	16	2	20	33	28	.004	.006	.005
Tuberculosis, All Forms..	440	58	501	561	537	.095	.108	.104
Typhoid Fever.....	102	101	206	204	349	.039	.039	.068
Whooping Cough.....	1,009	603	1,612	951	841	.306	.183	.163
Other Notifiable Diseases.	29	20	60	42	38	.011	.008	.007

* Reported cases from Camp Sherman and Wright Aviation Field included in total figures.

TABLE II—REPORTED CASES, TEN NOTIFIABLE DISEASES, WITH
TOTAL CASE RATE PER 1,000 POPULATION, OHIO CITIES,
JULY, 1918.

City.	Total Case Rate Per 1,000 Pop.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis Cere- brospinal.	Pneumonia, Acute Lobar.	Polymyelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms	Typhoid Fever.	Whooping Cough.
Total .....	.098	2,710	257	488	13	43	27	153	178	440	102	1,009
Akron	2.134	194	25	16	1	2	1	13	11	42	6	77
Alliance ¹ .....	.150	3	.....	.....	.....	.....	.....	1	.....	.....	2	.....
Ashland ² .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Ashtabula .....	.045	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Athens	2.948	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	22
Barberton .....	.365	5	1	.....	.....	.....	.....	.....	.....	4	.....	.....
Bellaire .....	.756	12	.....	4	1	1	.....	5	.....	.....	1	.....
Bellefontaine	2.940	28	.....	23	.....	.....	.....	.....	.....	.....	.....	5
Bellevue .....	.978	6	.....	.....	.....	.....	1	.....	1	.....	.....	4
Bowling Green.....	.748	4	.....	.....	.....	.....	.....	.....	3	.....	1	.....
Bucyrus	2.014	19	.....	2	.....	.....	.....	1	12	2	2	.....
Cambridge .....	.071	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Canton .....	.030	20	8	1	.....	.....	2	4	1	3	.....	1
Chillicothe .....	.504	8	4	.....	1	.....	.....	2	.....	1	.....	.....
Cincinnati	1.242	621	72	149	2	.....	13	23	14	113	14	231
Circleville	2.072	14	.....	3	.....	.....	.....	1	.....	1	1	8
Cleveland .....	.545	545	61	94	4	28	5	12	37	121	19	164
Columbus .....	.444	111	2	37	.....	.....	.....	30	.....	12	4	26
Conneaut ³ .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Coshocton .....	.082	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
Dayton .....	.399	57	5	2	1	2	.....	7	4	16	8	12
Defiance .....	.272	2	.....	.....	.....	.....	.....	.....	1	.....	1	.....
Delaware .....	.100	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Delphos .....	.366	2	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Dover .....	.393	3	.....	.....	.....	.....	.....	.....	1	1	1	.....
East Cleveland.....	2.622	38	.....	7	.....	.....	.....	1	.....	.....	.....	30
East Liverpool.....	.215	5	2	.....	.....	1	.....	2	.....	.....	.....	.....
Elyria .....	.600	12	2	4	.....	1	.....	.....	.....	1	.....	4
Findlay .....	.603	9	.....	.....	.....	.....	.....	1	4	.....	.....	4
Fostoria .....	.180	2	1	.....	.....	.....	.....	.....	.....	.....	1	.....
Fremont	2.079	21	1	.....	.....	.....	.....	3	5	2	.....	10
Galion .....	.973	7	.....	2	.....	.....	.....	.....	1	2	2	.....
Gallipolis ² .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greenville	1.460	10	.....	4	.....	.....	.....	.....	.....	.....	1	5
Hamilton .....	.440	20	.....	1	.....	.....	.....	.....	18	1	.....	.....
Ironton ² .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jackson .....	.978	6	2	.....	.....	.....	.....	2	.....	2	.....	.....
Kenton ² .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lakewood	1.312	32	2	1	.....	1	.....	3	.....	.....	.....	25
Lancaster .....	.488	8	.....	3	.....	.....	.....	2	2	1	.....	.....
Lima .....	.930	31	7	8	.....	.....	.....	4	12	.....	.....	.....
Lorain .....	.700	28	5	2	.....	1	.....	3	7	10	.....	.....
Mansfield	1.118	26	3	3	.....	.....	.....	.....	.....	.....	.....	20
Marietta ² .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marion ² .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Martins Ferry.....	.194	2	.....	.....	.....	.....	.....	.....	.....	1	1	.....
Massillon .....	.064	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....

TABLE II—REPORTED CASES, TEN NOTIFIABLE DISEASES, WITH TOTAL CASE RATE PER 1,000 POPULATION, OHIO CITIES, JULY, 1918—Concluded.

City.	Total Case Rate Per 1,000 Pop.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis Cere- brospinal.	Pneumonia, Acute Lobar.	Poliomyelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms	Typhoid Fever.	Whooping Cough.
Middletown	.244	4	2			1					1	
Mt. Vernon	.243	3							2	1		
Nelsonville	.604	4				1				2		1
New Philadelphia	.665	7				1			1	3	2	
Newark	.128	4						1		2	1	
Niles	.220	2					2					
Norwalk	1.872	16		3							2	11
Norwood	.656	16	3	2						1		10
Painesville ¹												
Piqua	.621	9	1					1	2	3	1	1
Portsmouth	.429	13						3	7	2		1
Ravenna	.780	5	1	4								
St. Bernard	.316	2										2
St. Marys	.166	1	1									
Salem	1.683	17	1	4				3			3	6
Sandusky	.539	11							2	4		5
Sidney	1.224	9		6								3
Springfield	3.268	172	2	56		1				11	1	101
Steubenville	.210	6	2	2				1		1		
Tiffin	.304	4	1								1	2
Toledo	1.510	302	26	22	3	1	1	14	14	57	9	155
Troy	.632	4								1		3
Urbana	1.053	9		4						5		
Van Wert	.258	2		2								
Wapakoneta	.153	1		1								
Warren	.814	11	2	2			1	1	1	1		3
Washington C. H.	.468	4						1	3			
Wellston	.290	2	2									
Wellsville	.110	1									1	
Wooster	1.288	8	1								7	
Xenia	.345	3	1					1		1		
Youngstown	1.071	119	8	14		1	2	6	12	6	5	65
Zanesville	.031	1									1	

¹ Alliance report incomplete.² Ashland, Gallipolis, Kenton, Marietta and Painesville reported no cases for July.³ Conneaut, Ironton and Marion reports delinquent for July.

DIVISION OF PUBLIC HEALTH EDUCATION AND TUBERCULOSIS

Summary of Activities in July, 1918

Changes in Organization.—Miss Hulda A. Cron was appointed child welfare nurse in the Bureau of Public Health Nursing July 1. Dr. R. G. Paterson, Director, resigned July 31 to take up tuberculosis work with a Red Cross unit in Italy.

Public Health Nursing Service.—Dr. Anna L. Preston was appointed public health nurse at Marietta. Reported cases of inflammation of the eyes of the newborn numbered 143. Six cases were investigated by the Department, instructions were given to health officers by telephone in four cases, six cases were provided with nursing care, and one case of impaired vision was reported.

Tuberculosis Hospitals.—Proposed District No. 2 organized by resolution; permanent officers were elected and a resolution to appropriate \$100,000 was adopted. Meetings of commissioners in proposed districts 4, 7 and 8 were attended. Chillicothe district hospital was inspected. A joint meeting of commissioners in Springfield Lake district was attended; the meeting rejected the plan of extension recommended by the State Department of Health. Notifications of hospital admissions and discharges received during the month are summarized as follows:

<i>Institutions.</i>	<i>Patients Reported.</i>	<i>Admis- sions.</i>	<i>Dis- charges.</i>
Ohio State Sanatorium.....	86	50	46
Butler County Sanatorium.....	4	1	3
Franklin County Sanatorium.....	58	28	37
Lucas County Tuberculosis Hospital....	62	34	33
Dayton District Hospital.....	22	10	13
Lima District Hospital.....	6	6	2
Springfield District Hospital.....	19	9	10
Springfield Lake Sanatorium.....	45	25	26
Mt. Logan Sanatorium.....	10	10	....
Rocky Glen Sanatorium.....	7	2	5
St. Anthony's Hospital.....	6	4	3
Totals	325	179	178

Total notifications, 357; referred to local public health nurses, 261; referred to health department of another state, 1; investigated by Division nurses, 42; histories unobtainable, 23; pending investigation August 1, 30.

Pending investigation July 1, 59: Investigated by Division nurses, 18; referred to local public health nurses, 2; histories unobtainable, 2; returned by local public health nurses, 2; net total pending from June, 39. Total cases pending August 1, 69.

Discharged Tuberculosis Soldiers.—Notifications for July, with totals since the beginning of work in behalf of discharged soldiers, are summarized as follows:

	<i>July.</i>	<i>Summary.</i>
Notifications received	3	525
Cases referred to public health nurses.....	3	364
Reports received from public health nurses.....	40	206
Cases written directly.....	....	156
Replies received	13	44
Cases visited by Division nurses.....	28	135
Cases admitted to hospitals.....	5	19
Cases not found.....	16	91
Cases not heard from.....	3	84

DIVISION OF LABORATORIES

Summary of Activities in July, 1918

The Division made 1,546 examinations in July, of which 1,118 were bacteriological and 428 were chemical. The bacteriological examinations, with their results, were as follows:

Tuberculosis, pos. 85, neg. 247, unsatis. 1.....	333
Diphtheria, pos. 24, neg. 127, no growth 10.....	161
Typhoid, pos. 19, neg. 69, susp. 2.....	90
Wassermann, pos. 100, neg. 252, unsatis. 11.....	363
Malaria, pos. 1, neg. 3.....	4
Rabies, pos. 7, neg. 6, unsatis. 4.....	17
Water	139
Sewage	3
Miscellaneous	8

Outfits were distributed in the following quantities:

Tuberculosis	162
Diphtheria	282
Typhoid	126
Malaria	9
Wassermann	696
Ophthalmia	2,758
Typhoid vaccine	108
Chemical—water and sewage.....	18
Bacterial—water and sewage.....	96
Total	4,255

The chemical samples examined included 120 specimens of foods and 48 of drugs. Results of the food examinations were: satisfactory 56, misbranded 1, adulterated 40, insufficient information 23. The misbranded substance was a sample of pop. The adulterated products included: milk 15, vinegar 12, lemon extract 2, vanilla extract 7, miscellaneous extracts 2, grape juice 1, pop 1.

Reports on the drugs were as follows: satisfactory 31, misbranded 2, adulterated 12, insufficient information 3. The misbranded drugs were listed as one hair tonic and one miscellaneous. Adulterated drugs were: tincture of iodine 3, hair tonic 1, turpentine 2, proprietaries 2, miscellaneous 4.

DIVISION OF INDUSTRIAL HYGIENE

Summary of Activities in July, 1918

The Division has continued the study of coal mines in Ohio for the purpose of collecting data for the Health and Old Age Insurance Commission. A survey has also been undertaken of representative munition plants in the state in co-operation with the United States Public Health Service. A survey of one establishment, employing more than 3,000 people, has been completed.

One case of stonecutter's consumption has been reported and 168 cases of tuberculosis among industrial workers were included in physicians' reports during this time.

The consultant to the Division has been given a two-weeks' leave of absence for the purpose of conducting a survey of the coal mines in Illinois for the Illinois Health and Old Age Insurance Commission.

Over 1,100 form letters to munition firms were sent out during the month, included in each being a pamphlet and a leaflet describing the cause and methods of prevention of boils and infections among machinists. A considerable amount of correspondence has resulted, including a number of requests for personal visits by members of the Division.

The reference library has been kept up to date and abstracts of current industrial hygiene literature have been prepared and published in the American Journal of Public Health.

DIVISION OF SANITARY ENGINEERING

Summary of Activities in July, 1918

Investigations by the Division during July dealt with eleven existing and three proposed water supplies and water purification systems, and with seven existing and eleven proposed sewerage systems and sewage treatment plants. An examination of the watershed above Columbus was made, sanitary conditions in a village were investigated, a typhoid fever epidemic at Connorville (Jefferson County) was studied, a garbage disposal plant was inspected and three cases of stream pollution were investigated.

Three sets of water supply and water purification plans and ten sets of sewerage and sewage disposal plans were examined.

Reports were submitted to the Commissioner of Health regarding proposed new water supply for East Palestine and four minor sewerage and sewage disposal projects.

A New London ordinance, passed July 1, to prevent pollution of the public water supply was approved July 10, fulfilling the first condition of approval of plans for a public water supply, granted October 11, 1917.

By revision of a condition of approval July 3, the time for awarding contract for installation of the outlet extension sewer at Greenfield was extended.

Eleven conferences were held with health officials, engineers, city officials and others, regarding water and sewer systems.

One hundred and thirteen certificates of approval of railroad water supplies were granted and no such certificates were refused.

BUREAU OF PUBLICITY, DIVISION OF ADMINISTRATION

Summary of Activities in July, 1918

Twenty-four publicity stories were issued during the month, of which nineteen were issued through the weekly News Letter, attaining a total circulation of 4,072,643 copies (incomplete), an average of 214,349 copies per story.

The following reprints of articles from the June OHIO PUBLIC HEALTH JOURNAL were ordered printed: "Physical Supervision in Ohio Schools" (4 pp.) and "Publications of the State Department of Health" (8 pp.). The following publications were received from the printer:

Circular letter to physicians regarding venereal disease regulations, Venereal Disease Regulations (4 pp.). Whooping Cough Regulations (4 pp.) and "Your Baby's Eyes — How to Save Them" (4 pp.).

Copy for Volume IX, Number 7, of the OHIO PUBLIC HEALTH JOURNAL, a venereal disease number, was prepared for the printer.

Requisitions for eight pieces of printing and bindery work were issued.

Management of the Department library was taken over by this bureau July 1. Ten books were added to the library in July.

FOREIGN BABIES NEED HEALTH SAFEGUARDS

The necessity of giving every mother a chance to learn how to protect the health of her children and of arousing the whole community to its responsibility for preventing infant deaths especially under the pressure of war conditions is evidenced by the figures contained in the latest report of the Children's Bureau of the United States Department of Labor. The report deals with conditions surrounding 2,197 babies born in Waterbury, Connecticut, a town of of nearly 75,000 in 1910, whose population has increased rapidly since the war because of the brass and copper industries.

Waterbury has a large foreign population and little has been done to place at the disposal of the many Lithuanian and Italian mothers knowledge of modern methods of hygiene. Many mothers speak no English. The isolation of the foreign born group is instanced by the fact that three of the mothers interviewed although born in this country, could speak no English. For these mothers few educational facilities are available. Few of them seek the services of the visiting nurses' association. Among the Lithuanian babies is the largest number of babies whose births are

unrecorded. And in Waterbury the health office had no record of 329 live births, or practically a seventh of the total number occurring during the year studied.

The Lithuanian mothers show the largest percent of babies who are not given the protection of breast feeding even during the first three months. In their group also occurs the highest per cent of infant deaths from digestive diseases, — diseases largely preventable, and traceable not only to such things as housing conditions which are often beyond the control of the individual mother, but to indiscreet feeding which could be prevented if wise advice were made available to every mother, and an effort were made to make plain to mothers the importance of breast feeding.

The Children's Bureau in presenting the report emphasized particularly its bearing on the Children's Year work to save 100,000 babies. The intensive statistical study in Waterbury serves to point again the value of classes for training mothers in the feeding and general care of children. Such classes have been inaugurated in the District of Columbia and in Seattle for example, as Children's Year follow-up work to meet the needs revealed by the weighing and measuring test of over 6,300,000 children.

HEALTH OFFICERS' ROUNDTABLE

Prepare for Smallpox

Akron is preparing to defend herself against the threatened renewal of the smallpox epidemic this fall. Health officials in that city have issued a warning to the public to be vaccinated this summer.

"There is just enough smallpox in the city at this time to hold over until the first cold weather, when it will become more virulent," the health department has announced. "Hence we can look for a smallpox epidemic in the fall. The only possible way to avoid it is by vaccination, and therefore every man, woman and especially every school child should be vaccinated during the summer."

Bid Health Officials Farewell

Regarding the departure of Dr. R. H. Bishop, Jr., Cleveland health commissioner, and J. D. Halliday, publicity director in Dr. Bishop's department, with a Red Cross expedition to Italy, mentioned elsewhere in this magazine, the *Cleveland Plain Dealer* comments as follows:

"The acceptance by Dr. R. H. Bishop, Jr., Cleveland commissioner of health, of membership upon the American commission selected to help Italy fight tuberculosis adds one more to a lengthening list of Sixth City men called to serve their country in conspicuous war activities. The city grants Dr. Bishop a six-months' leave of absence. His work abroad will be done in co-operation with the Italian government under Red Cross auspices.

"Supt. Spaulding, under a year's leave of absence by the board of education, is to help organize a scheme of educa-

tional work among American troops in Europe. His policies as head of the local schools will be carried on as far as possible by officials thoroughly familiar with them. Similarly, the acting commissioner of health will endeavor to carry out the same progressive ideas that have marked Dr. Bishop's administration of the health office.

"Dr. Bishop has made the office of health commissioner an intimate part of the city's life. To an extent not realized by most of his predecessors, he has seen the importance of bringing the public into close co-operation with the department's activities. This has involved intelligent publicity. It means public education along health lines; hence the bureau of health education, within the division of health, at the head of which is J. D. Halliday, who knows publicity and has been an efficient partner of the commissioner.

"It is evident that much the same methods that have made the Cleveland division of health a success are to be taken to Italy and Mr. Halliday accompanies Dr. Bishop to take charge of the health educational work there. Doubtless, the problem in Italy is essentially identical with the problem in Cleveland or in any other American city. The public is to be interested in its own health welfare. No population can be saved in a health sense until it appreciates what health salvation means.

"Regretting the absence of Dr. Bishop, Cleveland appreciates this compliment and is glad to lend his services to America's great ally; just as it is glad to lend Supt. Spaulding for the task that has been assigned him. It is another opportunity for this community to aid in the cause of freedom."

Why Not Vaccinate?

From an Ohio city comes a thrilling newspaper story of a smallpox patient who threw the town into a turmoil. The patient in question, with his face highly decorated with

pustules, walked into the city hall. Officials, suspecting the disease, fled out the back door. The health officer was called and started the smallpox victim down the middle of the street to the pesthouse, following him in an automobile "at a safe distance," as the newspaper account expressed it, in the rear.

Why the city officials hadn't been vaccinated and why the health officer, at least, didn't recognize the fact that recent vaccination would have enabled him to take the patient into the automobile and still be "at a safe distance," the reporter didn't say.

Dr. Smedley Enters Army

Dr. A. L. Smedley, for seven years health officer of Hamilton, has resigned to accept a commission in the Medical Reserve Corps.

Smallpox in Children's Home

Every inmate of every public institution should be vaccinated. This recommendation has been made from time to time since the outbreak of the smallpox epidemic last fall. That it is still necessary, however, is proved by a recent case in which an inmate of a northern Ohio children's home visited Cleveland and after returning developed smallpox. All inmates and attaches were then vaccinated — another case of locking the stable door too late.

Our City's Health Record

(Dayton Journal.)

We feel that the department of health is entitled to credit for good work done during the year past. Birth and death, and birth again — that is the story of life, and time, and eternity.

Births during the first six months of the present year exceed the number of births during the corresponding period last year, and we have saved more babies.

The total death rate, also, is less than it was last year. These conditions, in large measure, are due to increasing efficiency of the health department, which, of course, recognizes the fact that the general public is becoming better informed, more careful, more obedient to the obviously wise directions and advice given out from time to time by this department. It may not be amiss here to call attention to the fact that the warm season is not friendly to babies; and it is our chief concern to conserve baby life. We want to see the birth rate maintained at a high average, and we want to see the death rate reduced to the lowest possible minimum.

It is the business of the health department to lead in this work; our business to assist by following orders, direction and advice.

The department urges every person in the city to be on the alert to observe and discover disease sources generally, and to assist in stamping them out. Mothers are especially urged to be careful of their little ones during July and August, to avoid crowded places, to pay attention to diet, clothing and the like, and to refrain from taking the little ones out in the heat.

There are, of course, in every city, persons who cannot be as careful in this matter as they would like to be, but a report of the fact to the health department or other authority would bring assistance.

In connection with this matter of baby conservation the local members of the Volunteers of America have prepared to deliver free ice

to the homes of worthy poor people in the city. The visiting nurses do their part in this good work by furnishing the names of all such families. The general public can assist by conserving ice and by aiding those who are actively interested in the campaign.

If all the plans of the health department could be carried out, with other authorities co-operating with the board and people, Dayton would soon become a model health

city, just as it already is a model city in so many other respects.

Springfield Diphtheria Rate

Dr. E. B. Starr, director of public health of Springfield, calls attention to the fact that an error was made in stating Springfield's 1917 diphtheria rate in the Health Officers' Roundtable for June. The rate was 3.8 per 100,000 instead of 11.9 as given.

PUBLIC HEALTH NOTES FROM OVER THE STATE

The Springfield council recently amended an ordinance so as to permit the assistant director of public health of the city to accept compensation from private sources for managing a venereal disease clinic. This official receives \$1,620 salary per year and may not, by the terms of the existing ordinance, engage in private practice.

* * *

School children at Willard (formerly Chicago Junction) must present proof of recent successful vaccination before they may enter school this fall, according to recent action of the village health authorities.

* * *

Hostility toward Toledo's new venereal clinic has been displayed by quack doctors whose trade it is undermining. One such doctor has been arrested for tearing down placards advertising the clinic and substituting his own cards. The

clinic offers free treatment to men earning less than \$28 a week. It is treating from twenty to thirty patients daily.

* * *

Vaccination will be required as a prerequisite to employment of all employees of the new nitrate plant to be established by the Air Nitrate Corporation at Cincinnati.

* * *

Regular monthly inspection of all food-handling establishments was instituted by the Portsmouth board of health last month.

* * *

The Hamilton County branch of the Council of National Defense has appropriated \$2,385 from the county war chest to aid child welfare work in the county. The expenditure of this amount will be supervised by the Cincinnati health department in connection with its own child hygiene activities.

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THE DEPARTMENT'S ROLL OF HONOR .

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EDITORIALS

A Word in Regard to Ohio's Influenza Outbreak

Since the last previous number of the OHIO PUBLIC HEALTH JOURNAL was issued, the influenza situation has been claiming the attention of Ohio health officials. The disease which for the past year had been epidemic in Europe reached the United States late in the summer and made its first appearance in Ohio at the close of September.

With the first outbreak of the disease in this country, the United States Public Health Service took prompt steps to secure action by state and local health officials for the control of the threatened epidemic. The states responded to the Federal call without delay and as this is written a well-organized country-wide fight is in progress.

The course of the influenza outbreak in Ohio can not be predicted at this time, although it is hoped that, by the time this magazine reaches its readers, the disease will have been brought under control. The historical aspects of the present outbreak must therefore be left to a later issue of the JOURNAL while in this number we content ourselves with outlining the official action of the State Department of Health and reproducing some of the mass of educational matter which has been published.

Million Children Need Help Which Ohio Fails to Give

At the top of a list of "Neglected Fields for Public Health Work," if we were to compile one, would ap-

pear this entry: "The Public Schools of Ohio." With nearly a million pupils enrolled, there is, outside of the larger cities and a few smaller places, practically no effort being made to supervise health conditions in the public schools. Nearly a million citizens of the state, at the stage of life when they are most in need of protection and when constructive health work can accomplish results greater than at any later stage, are being allowed to grow up without such attention.

Within a few years many men and women—now numbered among these million school children—will be laboring under the handicaps of ill-health and physical defects traceable directly to the lack of efficient health supervision in their childhood. A portion of the burden under which they must struggle will inevitably be shifted to society in general: the next generation will foot the bill for the present generation's lack of foresight.

And it must be admitted that that is the method of payment which is prevailing now: the present generation inherited the debt due to the preceding generation's limited vision. One phase of the situation has come sharply to light with the rejection of thousands of young men as soldiers because of physical disabilities which might have been forestalled by proper precautions in childhood, but which are no longer remediable. Military service is only one of the activities in which these unfortunate individuals are unable to play their part; constantly through life the well members of society must be bearing burdens for those who lack the strength to carry their own, and constantly such extra, avoidable loads act as a drag upon society in its efforts to progress.

Shall we pass on to our descendants this same kind of dead weight? Or shall we take the simple steps which if taken now will open the way for a healthier, more prosperous and happier state to be?

* * *

School Hygiene Programs May Be Simple and Yet Comprehensive

Plans for giving greater attention to health supervision in any community's schools, or in any

individual school, need not include a complex program or an elaborate organization.

The things to be accomplished are essentially simple and any organization which will accomplish them will be adequate. Here are the chief things to be done:

Study the physical condition of each pupil (this should be done by a physician if possible) and provide for the immediate correction of remediable defects which may be disclosed.

Remove any conditions in the school building and its surroundings which may promote the spread of disease or may endanger in any other way the physical well-being of the pupils.

Develop as comprehensive a program of physical training as may be practicable and inspire in the pupils an enthusiasm for healthful recreation.

Make whatever provision may be possible for the prompt detection of communicable disease cases and rigidly exclude such cases from school until recovery is complete, in the meantime co-operating with the health officials in measures for checking any possible spread due to exposures which may have occurred.

Educate the parents of the children so as to bring them into sympathy with the school program and secure their co-operation in carrying it out.

Such a program as is here outlined can be begun by any teacher or school official with sufficient enthusiasm to interest his coworkers and, if possible, a few outsiders in the need which exists. Such medical assistance as is needed can in most cases be obtained without cost for a time, at least, if funds for the purpose are not available, although plans should provide for the ultimate replacement of volunteer service by a paid organization. At least one nurse is of course to be desired, but if she can not be obtained immediately, volunteer workers may to a certain extent take her place until her employment becomes possible. Existing unhealthful conditions can in most cases be detected by the inexperienced person, with the aid of advice which the State Department of Health will cheerfully supply; if the correction of these demands expenditures for which money is not available, agitation to obtain the necessary funds should be started immediately and in the meantime such remedies as are available without cost should be applied. A program of physical education, which in the beginning at least needs no equipment other than the school grounds or a vacant lot, can be set in motion by anyone with the right kind of enthusiasm for healthful recreation.

Recognizing the simplicity of the problem of school health improvement, one cannot condone the failure of Ohio school officials in general to meet the situation. Recognition of the need should be immediately followed by action to correct the present conditions.

To John H. Landis, a Builder in the Field of Public Health

As to John H. Landis, the man, this publication can add no word to the outburst of tributes which followed his recent death: we can merely echo what so many of his friends and fellow-citizens of Cincinnati have said. As to John H. Landis, the health officer, we desire to express, as the official organ of the State in the field to which he gave such valuable years of service, Ohio's deep sense of loss in his death.

Dr. Landis represented the earnest, progressive, constructive type of public health worker to which all cities and all states might well wish their servants in this field to conform. A leader in his own community, builder of a municipal health administrative structure which will survive through the years, he was not content to let his influence be limited by the bounds of his city. In the state and national councils of his profession as well, his voice was to be heard, leading on toward greater achievements.

As health officer of Cincinnati, he did much for his city. No less, however, was he a servant of his state and his country. His personal influence was always on the side of public health progress, whether in city, state or nation, and the organization which he built up in Cincinnati has served as the model for much valuable work in other cities.

As in the death of every other great man, there is in Dr. Landis' death, to balance in some measure the feeling of loss which we feel, the compensating effect of our gratitude that such a man has lived and worked among us.

* * *

Apply Recently Gained Knowledge and Lower Pneumonia Mortality

Judging from recent developments and from experience with other diseases, one is inclined to predict that pneumonia will soon be clearly recognized among the diseases which are properly subject to preventive regulation. Our knowledge of this disease (or rather, as is pointed out in the abstract in this issue of a recent article by Dr. Rufus Cole, of this pair of diseases) is rapidly growing, and each increase in knowledge strengthens the belief that pneumonia can be prevented by restrictive measures similar to those employed for other contagious diseases.

The sound basis for substituting contagion for lowered resistance as the recognized causative factor in lobar pneumonia is pointed out in Dr. Cole's article. In the case of broncho pneumonia, while lowered resistance plays an important part in some cases, it appears in the light of our present knowledge that, as the organism increases in virulence,

attacks upon persons in normal conditions of health, due clearly to infection from patients or carriers, become more and more frequent.

The essential feature of prevention of both kinds of pneumonia, therefore, is restriction of the spread of the infectious agent. Our knowledge of how best to accomplish this restriction is growing day by day. Studies in preventive inoculation are also being carried on, with encouraging results.

In view of this growth in our knowledge of these two diseases which cause so many deaths each year, no health official should fail to follow the course of investigations with the greatest care. During the winter period of normally high pneumonia prevalence, each should apply in his professional work the latest knowledge gained from such study.

* * *

Call to Arms Again Sounded in Campaign to Save Babies

The familiar maxim, "In time of peace prepare for war," can not be applied to baby-saving, for in baby-saving there is never a time of peace. Some enemy is always at hand, and it is while fighting that enemy that the protectors of the rising generation must prepare to meet the next foe which may appear.

During recent months, local committees in charge of the Children's Year activities in Ohio have been battling the great summer enemy—diarrhea and enteritis. By training mothers to give their babies proper food and protection from the heat, by the establishment of free milk and ice stations and clinics, results deserving of great praise have been achieved in many localities, although in certain other communities the results have not been so satisfactory.

The diarrhea danger is now practically past. In its place, however, rises the pneumonia menace. If babies are to be saved during the winter, the pneumonia death rate must be materially reduced. Such measures as are necessary to insure adequate clothing and feeding of babies and to provide fuel for families with babies must be taken. Education of mothers must continue, special emphasis being laid upon the necessity for protecting babies against severe exposure and against disease of all kinds, which may open the way for pneumonia, and upon the importance of shielding children from contact with cases of pneumonia, now recognized as a contagious disease.

The Mahoning Sanitary Problem and Its Importance to Ohio

A reading of the summary of the report on sanitary conditions in the Mahoning River in the Youngstown district, published in this magazine, makes it clear that there is no exaggeration in classing this as one of the most important problems of sanitation which the State Department of Health has had to consider.

When nearly 150,000 people are dumping their sewage and industrial wastes into twenty-five miles of the course of a comparatively small river, and at the same time a large portion of this population is deriving its water supply from the same stream, the situation must inevitably be highly dangerous to the public health. Such danger has been recognized for years in the Youngstown region, but in the past two years, as rapid industrial development has crowded thousands more people into the district, the danger has reached so threatening a stage that further delay in settlement can not be permitted.

Accordingly the State Department of Health has proposed what appears after years of study to be the only practical method of achieving a rapid improvement of conditions—the organization of a sanitary district through which the various political units now acting independently can adjust their differences and proceed with a comprehensive program in which the interests of all will be safeguarded. Only by joint action of this kind, it is believed, can the lives of the residents of the lower Mahoning Valley be protected.

It is hoped that the communities involved will recognize the logic of this proposal and join with the State Department of Health in seeking legislation to make possible the organization of a sanitary district.

* * *

Wassermann Totals and Venereal Case Reports Indicate Progress

The following figures on Wassermann examinations performed in the laboratories of the State Department of Health and on cases of syphilis and gonorrhea reported to the Department in recent months give some idea of progress which has been made toward attaining a higher degree of control of venereal diseases in Ohio:

	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>
Wassermann examinations ...	378	470	556	363	345
Syphilis cases reported.....	49	147	987	317	636
Gonorrhea cases reported.....	72	358	1,223	695	1,465

The new regulations requiring reports of venereal cases by name have brought some improvement in reporting, since they went into effect

July 1. One point, however, which is not apparent in the total figures on reports, is that a large share of the notifications come from a few centers, notably Akron and Camp Sherman. In other localities in the State the physicians are to a greater or less extent neglecting the regulations, although there are some physicians who are notable exceptions to this general statement.

It is not to be presumed that Akron has a higher venereal prevalence than other cities of equal size; the high case totals reported from Akron merely mean that the physicians in the city are meeting the responsibility which has been brought so clearly to light by the war and that the local health authorities are giving the State Department of Health thorough co-operation in obtaining reports.

The high totals from Camp Sherman merely indicate the prevalence of venereal infections in a group of average young men, selected from average communities in Ohio and nearby states. Military medical administration produces the information which civilian health authorities have permitted to remain hidden.

The Wassermann facilities of the laboratories are offered free to physicians of the State, the sole requirement being that the outfits furnished free by the Department must be used in taking and mailing specimens for examination. Arrangements are practically completed for laboratory diagnosis of gonorrhea and outfits for submitting specimens will soon be available.

* * *

Some Thoughts Suggested by the 1917 Mortality Figures

The death statistics for 1917 published in this magazine offer many points of interest for the consideration of persons interested in the public health of the State. Most of these are too obvious to require editorial discussion. Some thoughts which come to mind as one looks over the figures are jotted down here, however, in a somewhat disconnected fashion:

The tuberculosis rate for 1917 was higher than in any previous year since 1911. This fact emphasizes the need for continued anti-tuberculosis work, and especially for more district hospitals.

Organic heart diseases continue the trend of recent years, rising still higher in death rate and remaining at the top of the list. Apoplexy, Bright's disease and arterial diseases exhibit a similar upward trend.

Pneumonia continues high, the total for both varieties repeating its 1916 performance, when it went above tuberculosis for the first time. In view of recent studies, however, there appears to be no logical reason

for continuing to regard lobar and broncho pneumonia under a single total; the article by Dr. Rufus Cole abstracted in this issue brings out the fact that these are two totally distinct diseases. The continual increase in pneumonia totals in recent years suggests a need for greater preventive efforts than are being generally made.

An encouraging feature of the figures is the decrease in diarrhea deaths of children under two years of age. It is to be hoped that when the 1918 figures are compiled a much greater decrease will appear under this head—the result of the past summer's baby-saving activities.

The typhoid rate exhibited an encouraging drop, but Ohio can not be proud of her activities in prevention of this disease until the present death rate is reduced one-half.

The rates demonstrate again the often-mentioned danger of measles and whooping cough; the rates for these diseases were not far behind diphtheria, even though diphtheria had a high year in 1917, and each was far ahead of scarlet fever.

Comparative rates for various counties and cities should not be dwelt upon to any great extent, for it must be remembered that the population estimates used in computing these rates fail to make allowance for the abnormal growth which has taken place in many industrial communities since the census of 1910. Accurate comparisons between different areas, and between different years for many individual areas, can not be made until the census figures for 1920 are compiled.

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Employers, Guard Your Workers' Health and Increase Your Profits

Employers of labor in Ohio, by co-operating with state and local health officials in the prevention

of disease, can raise the standard of public health in the State and at the same time increase their own output. Many industrial establishments have already recognized the truth of this statement and have instituted effective programs for maintaining the health of their employees. Many other employers, however, have not yet taken this step and are still losing money every day because of lowered efficiency due to a high percentage of illness among their workmen.

The Division of Industrial Hygiene of the State Department of Health represents one highly important phase of industrial health work. Its wide knowledge of occupational diseases and industrial health hazards, gained through first-hand investigations in Ohio industries, is at the disposal of any manufacturer or other employer of labor who wishes to institute measures for improving health in his establishment. The

Division will study any individual situation upon request and will make recommendations for the establishment of proper health conditions.

The prevention of venereal diseases, smallpox and typhoid fever are specialized fields of health work which should also receive attention in any industrial health program. The industrial phase of the venereal disease problem is receiving special attention from the Department's new Bureau of Venereal Diseases. Heavy losses in working time will be wiped out by effective measures for venereal disease prevention in any industrial establishment in the State. The Bureau of Venereal Diseases has prepared comprehensive plans for industrial co-operation and will be glad to take up the matter with any employer who is interested. Smallpox and typhoid fever are so easily prevented that they should demand no extended discussion. It should be sufficient to recommend to every employer that he require of his workmen the same protection against these diseases that is required in the army: vaccination against smallpox and inoculation against typhoid fever. The plant whose workmen are not thus protected is constantly in danger of a complete collapse due to the outbreak of an epidemic of one of these diseases.

The State Department of Health is not asking any employer to take up health work among his employees purely for the benefit of the employees and the public. It knows, and can produce evidence to convince any employer, that industrial health work will produce a profit in dollars and cents by increasing the number of days' work done in a year.

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Health Council Member Goes to Italy With Red Cross From time to time in these columns the departures of various members of the staff of the State Department of Health to enter military and other war service have been noted. This month, however, brings the first occasion for extending good wishes to a member of the Public Health Council as he dons the uniform.

Dr. W. I. Jones, who has been ably representing the dental profession of the State in the Council, since its creation with the reorganization of the State Department of Health a year ago, has entered Red Cross service and has left for Italy with the tuberculosis mission, of which Dr. Robert G. Paterson, head of the Department's tuberculosis work, is also a member.

Dr. Jones is one of Ohio's most progressive and public-spirited dentists. Deserved recognition of his standing was given by Governor

Cox in appointing him to the Public Health Council. His service in the Council has fully justified the honor thus conferred upon him, and gives assurance that he will render valuable service in Italy.

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**Existing System of Antitoxin
Distribution Explained**

To make clear to physicians, health officials and druggists of the State the new system now in operation for distribution of diphtheria antitoxin in Ohio, an explanation of this plan is here presented. The chief points of difference from the former system are that prices are now lower than before for general distribution, that the same prices apply to purchases for indigents as to purchases for other persons and that any druggist, instead of only those who are laboratory distributors for the State Department of Health, may now carry a stock of antitoxin.

Antitoxin is being distributed under a new contract with the H. K. Mulford Company, manufacturing chemists, Philadelphia, who will sell antitoxin outright to any druggist who wishes to carry a supply on hand. Every druggist will be solicited by the Mulford salesman and given an opportunity to participate in the plan. The distributing stations, to which antitoxin stocks have heretofore been limited, in most cases number only one to the community.

The new price schedule is as follows: 1,000 units, 75 cents; 5,000 units, \$3; 10,000 units, \$5. This is lower than the former rate for general distribution, but is higher than the rate formerly quoted for indigent cases supplied at public expense.

By regulations of the State Department of Health, no antitoxin other than that manufactured by the Mulford Company may be sold in Ohio. The Department takes no part in the distribution of the antitoxin, this being left entirely to the manufacturer.

Instructions for Control of Influenza

The Public Health Council of the State Department of Health, at a meeting October 10, adopted the following "Instructions of the State Department of Health to Local Health Authorities for the Prevention and Control of Influenza":

The seriousness of the epidemic of influenza in the Eastern States and the possibility of equally serious conditions in Ohio if immediate steps are not taken to prevent and control the introduction and spread of the disease in this state leads the State Department of Health to give these instructions to local health authorities.

The fatalities that have resulted from this epidemic are a sufficient justification for any reasonable measures of control that can be exercised, and the State Department of Health hereby calls upon all citizens of the state to lend every possible aid and support to the health authorities by observing all regulations that have for their purpose the control of this disease. Furthermore, in the East, there has been serious interference with all activities, including those directly connected with the prosecution of the war. Ohio has a large share in the production of war materials and this work must continue with the least interruption and delay possible.

Influenza is communicated directly from person to person and this occurs most often when people are crowded together indoors. To prevent this condition, the State Department of Health hereby directs the following procedure:

1. When an outbreak of influenza occurs in a community, the Board of Health or health officer or person performing the duties of a board of health, shall immediately close moving picture shows, theatres, schools, churches, lodges and other places of public assembly, and shall prohibit congregating or loitering in saloons, stores, pool or billiard rooms and other places.

2. All public funerals shall be prohibited in any community during the presence of influenza.

3. During the prevalence of influenza, all street cars, factories, offices, dining-rooms and other rooms or places which must be occupied should be given

the greatest amount of ventilation possible.

4. All measures for the prevention and control of communicable diseases depend on prompt information as to the existence and location of cases. For this reason the State Department of Health has declared that cases of influenza shall be immediately reported to the local health officer by the physician in attendance, or where a physician is not called, by the head of the family or person owning or maintaining the premises.

5. Because of the possibility of the introduction of influenza into every health district in the state, local authorities should not await the appearance of the disease before preparing to combat it. The board of health should meet and adopt suitable regulations that can be put into immediate effect as soon as the disease appears. Such regulations shall contain the instructions above outlined and such additional measures as are necessary to meet local conditions.

6. In every community in which influenza has appeared, the board of health, or health officer, or person performing the duties of the board of health shall immediately put into effect the above instructions and continue the same in full force and effect as long as the emergency shall continue.

7. The health officer shall immediately notify the State Commissioner of Health by telegram or telephone of the appearance of influenza in his community and shall keep him informed as to the progress of the disease.

8. The State Department of Health has the assurance of the United States Public Health Service and the American Red Cross that assistance by furnishing medical and nursing service and supplies, will be given to local communities if conditions become so serious that the local authorities and the State Department of Health are unable to cope with the situation.

"Spanish Influenza"—"Three-Day Fever" —"The Flu"*

What is Spanish Influenza? Is it something new? Does it come from Spain?

The disease now occurring in this country and called "Spanish Influenza" resembles a very contagious kind of "cold" accompanied by fever, pains in the head, eyes, ears, back or other parts of the body, and a feeling of severe sickness. In most of the cases the symptoms disappear after three or four days, the patient then rapidly recovering; some of the patients, however, develop pneumonia, or inflammation of the ear, or meningitis, and many of these complicated cases die. Whether this so-called "Spanish" influenza is identical with the epidemics of influenza of earlier years is not yet known.

Epidemics of influenza have visited this country since 1647. It is interesting to know that this first epidemic was brought here from Valencia, Spain. Since that time there have been numerous epidemics of the disease. In 1889 and 1890 an epidemic of influenza, starting somewhere in the Orient, spread first to Russia, and thence over practically the entire civilized world. Three years later there was another flare-up of the disease. Both times the epidemic spread widely over the United States.

Although the present epidemic is called "Spanish influenza," there is no reason to believe that it originated in Spain. Some writers who

have studied the question believe that the epidemic came from the Orient and they call attention to the fact that the Germans mention the disease as occurring along the eastern front in the summer and fall of 1917.

How can "Spanish influenza" be recognized?

There is as yet no certain way in which a single case of "Spanish influenza" can be recognized; on the other hand, recognition is easy where there is a group of cases. In contrast to the outbreaks of ordinary coughs and colds, which usually occur in the cold months, epidemics of influenza may occur at any season of the year; thus the present epidemic raged most intensely in Europe in May, June, and July. Moreover, in the case of ordinary colds, the general symptoms (fever, pain, depression) are by no means as severe or as sudden in their onset as they are in influenza. Finally, ordinary colds do not spread through the community so rapidly or so extensively as does influenza.

In most cases a person taken sick with influenza feels sick rather suddenly. He feels weak, has pains in the eyes, ears, head or back, and may be sore all over. Many patients feel dizzy, some vomit. Most of the patients complain of feeling chilly, and with this comes a fever in which the temperature rises to 100 to 104.

* Reprinted from Supplement No. 34 to the *Public Health Reports* (United States Public Health Service).

In most cases the pulse remains relatively slow.

In appearance one is struck by the fact that the patient looks sick. His eyes and the inner side of his eyelids may be slightly "blood-shot," or "congested," as the doctors say. There may be running from the nose, or there may be some cough. These signs of a cold may not be marked; nevertheless the patient looks and feels very sick.

In addition to the appearance and the symptoms as already described, examination of the patient's blood may aid the physician in recognizing "Spanish influenza," for it has been found that in this disease the number of white corpuscles shows little or no increase above the normal. It is possible that the laboratory investigations now being made through the National Research Council and the United States Hygienic Laboratory will furnish a more certain way in which individual cases of this disease can be recognized.

What is the course of the disease? Do people die of it?

Ordinarily, the fever lasts from three to four days and the patient recovers. But while the proportion of deaths in the present epidemic has generally been low, in some places the outbreak has been severe and deaths have been numerous. When death occurs it is usually the result of a complication.

What causes the disease and how is it spread?

Bacteriologists who have studied influenza epidemics in the past have found in many of the cases a very small rod-shaped germ called, after its discoverer, Pfeiffer's

bacillus. In other cases of apparently the same kind of disease there were found pneumococci, the germs of lobar pneumonia. Still others have been caused by streptococci, and by other germs with long names.

No matter what particular kind of germ causes the epidemic, it is now believed that influenza is always spread from person to person, the germs being carried with the air along with the very small droplets of mucus, expelled by coughing or sneezing, forceful talking, and the like by one who already has the germs of the disease. They may also be carried about in the air in the form of dust coming from dried mucus, from coughing and sneezing, or from careless people who spit on the floor and on the sidewalk. As in most other catching diseases, a person who has only a mild attack of the disease himself may give a very severe attack to others.

What should be done by those who catch the disease?

It is very important that every person who becomes sick with influenza should go home at once and go to bed. This will help keep away dangerous complications and will, at the same time, keep the patient from scattering the disease far and wide. It is highly desirable that no one be allowed to sleep in the same room with the patient. In fact, no one but the nurse should be allowed in the room.

If there is cough and sputum or running of the eyes and nose, care should be taken that all such discharges are collected on bits of gauze or rag or paper napkins and burned. If the patient complains of fever and headache, he should be given water to drink, a cold com-

press to the forehead, and a light sponge. Only such medicine should be given as is prescribed by the doctor. It is foolish to ask the druggist to prescribe and may be dangerous to take the so-called "safe, sure, and harmless" remedies advertised by patent-medicine manufacturers.

If the patient is so situated that he can be attended only by some one who must also look after others in the family, it is advisable that such attendant wear a wrapper, apron, or gown over the ordinary house clothes while in the sick room, and slip this off when leaving to look after the others.

Nurses and attendants will do well to guard against breathing in dangerous disease germs by wearing a simple fold of gauze or mask while near the patient.

Will a person who has had influenza before catch the disease again?

It is well known that an attack of measles or scarlet fever or small-pox usually protects a person against another attack of the same disease. This appears not to be true of "Spanish influenza." According to newspaper reports the King of Spain suffered an attack of influenza during the epidemic thirty years ago, and was again stricken during the recent outbreak in Spain.

How can one guard against influenza?

In guarding against disease of all kinds, it is important that the body

be kept strong and able to fight off disease germs. This can be done by having a proper proportion of work, play, and rest, by keeping the body well clothed, and by eating sufficient, wholesome, and properly selected food. In connection with diet, it is well to remember that milk is one of the best all-round foods obtainable for adults as well as children. So far as a disease like influenza is concerned, health authorities everywhere recognize the very close relation between its spread and overcrowded homes. While it is not always possible, especially in times like the present, to avoid such overcrowding, people should consider the health danger and make every effort to reduce the home overcrowding to a minimum. The value of fresh air through open windows can not be over-emphasized.

Where crowding is unavoidable, as in street cars, care should be taken to keep the face so turned as not to inhale directly the air breathed out by another person.

It is especially important to be aware of the person who coughs or sneezes without covering his mouth and nose. It also follows that one should keep out of crowds and stuffy places as much as possible, keep homes, offices, and workshops well aired, spend some time out of doors each day, walk to work if at all practicable—in short make every possible effort to breathe as much pure air as possible.

"Cover up each cough and sneeze, If you don't you'll spread disease."

Influenza

How to Avoid It — How to Care for Those Who Have It

Educational Circular 117 of the State Department of Health, issued in October under the above title and modeled after a Massachusetts bulletin, gives the following advice for meeting the influenza situation:

What To Do Until the Doctor Comes

If you feel a sudden chill, followed by muscular pain, headache, backache, unusual tiredness and fever, go to bed at once.

See that there is enough bed clothing to keep you warm.

Open all windows in your bedroom and keep them open at all times, except in rainy weather.

Take medicine to open the bowels freely.

Take some nourishing food such as milk, egg-and-milk or broth every four hours.

Stay in bed until a physician tells you that it is safe to get up.

Allow no one else to sleep in the same room.

Protect others by sneezing and coughing into handkerchiefs or cloths, which should be boiled or burned.

Insist that whoever gives you water or food or enters the sick room for any other purpose shall wear a gauze mask, which may be obtained from the Red Cross or may be made at home of four to six folds of gauze and which should cover the nose and mouth and be tied behind the head.

Remember that these masks must be kept clean, must be put on outside the sick room, must not be handled after they are tied on and must be boiled 30 minutes and thoroughly dried every time they are taken off.

To Householders

Keep out of the sick room unless attendance is necessary.

Do not handle articles coming from the sick room until they are boiled.

Allow no visitors, and do not go visiting.

Call a doctor for all inmates who show signs of beginning sickness.

The usual symptoms are: Inflamed and watery eyes, discharging nose, backache, headache, muscular pain, and fever.

Keep away from crowded places, such as "movies," theaters, street cars.

See to it that your children are kept warm and dry, both night and day.

Have sufficient fire in your home to disperse the dampness.

Open your windows at night. If cool weather prevails, add extra bed clothing.

To Workers

Walk to work if possible.

Avoid the person who coughs or sneezes.

Wash your hands before eating.

Make full use of all available sunshine.

Do not use a common towel. It spreads disease.

Should you cough or sneeze, cover nose and mouth with a handkerchief.

Keep out of crowded places. Walk in the open air rather than go to crowded places of amusement.

Sleep is necessary for well-being—avoid over-exertion. Eat good, clean food.

Keep away from houses where there are cases of influenza.

If sick, no matter how slightly, see a physician.

If you have had influenza, stay in bed until your doctor says you can safely get up.

To Nurses

Keep clean. Isolate your patients.

When in attendance upon patients, wear a mask which will cover both the nose and the mouth. When the mask is once in place, do not handle it.

Change the mask every two hours. Owing to the scarcity of gauze, boil for one-half hour and rinse, then use the gauze again.

Wash your hands each time you come in contact with the patient. Use bi-chloride of mercury, 1-1000, or Liquor Cresol compound, 1-100, for hand disinfection.

Obtain at least seven hours' sleep in each twenty-four hours. Eat plenty of good, clean food.

Walk in the fresh air daily.

Sleep with your windows open.

Insist that the patient cough, sneeze or expectorate into cloths that may be disinfected or burned.

Boil all dishes.

Keep patients warm.

Influenza Has Been Epidemic in Past Years

EPIDEMICS of influenza, commonly known as "grip," such as have broken out in many sections of the United States in recent weeks and have prevailed in Europe for a year or more past, are by no means rare in medical history. While the name of "Spanish grip" has been popularly applied to the disease now prevalent, it is deemed probable that the malady is the same "influenza" or "grip" which has appeared in epidemic form before. The disease differs from the familiar type of "grip" in its greater virulence.

The present outbreak has not yet duplicated the conditions which prevailed in the pandemic, or world-wide outbreak, in 1889 and 1890. In that outbreak scarcely a spot on the globe escaped the disease and the cases were numbered in millions, estimates placing the average number of persons affected at forty percent of the population.

The pandemic of 1889 and 1890 appears to have taken its rise in Asiatic Russia (there are a few indications that it may have spread to that locality from China), and from there to have moved swiftly westward until it had covered the entire globe in a few months. In rapidity of progress it exceeded epidemics of any other known disease. This swiftness, in fact, led to serious doubts among many medical men of the day that contagion was responsible for the spread, their belief being that the progress was swifter than human travel. The erroneous nature of this belief, however, was estab-

lished, and it was found that the pandemic in its progress had followed the main lines of human communication. The contagious and infectious nature of influenza is therefore established today.

The fatality rate of influenza is not high, so far as deaths directly due to the disease are concerned, but there has been notable in nearly every epidemic an accompanying increase in deaths from pneumonia, tuberculosis and other diseases of the respiratory organs, indicating that influenza often renders the individual dangerously susceptible to such infections.

Despite the low death rate, however, an epidemic of influenza is a serious matter for a community. It has a paralyzing effect on business and industry, by reason of the large numbers of persons affected.

An epidemic of influenza ordinarily lasts from four to six weeks, reaching its height at the middle of that period. Epidemics appear to begin most often in winter and least often in summer. Once begun, however, an outbreak runs its course equally through all seasons, the 1889-90 pandemic having reached its highest proportions in the summer in many of the countries affected.

In the United States registration area influenza, during the years 1911 to 1915, caused from six to ten thousand deaths annually, besides the probable heavy total indirectly attributable to the disease. The deaths are fewest in the summer months, the rate rising rapidly through the fall to reach its highest point in late winter or spring.

Ohio Death and Birth Statistics for 1917

Compiled by State Bureau of Vital Statistics, Dr. John Emerson
Monger, Director

OHIO'S LEADING DISEASE CAUSES OF DEATH, 1917

(Only those diseases which had death rates of 10.0 or over per 100,000 in 1917 are listed. Diseases in *italics* had lower death rates in 1917 than in 1916.)

Disease.	Deaths 1917.	Deaths 1916.	Death rate 1917.	Death rate 1916.
Organic diseases of the heart	8,656	8,351	166.08	162.14
Tuberculosis	7,450	6,838	142.99	132.77
Apoplexy	5,854	5,505	112.32	106.89
Lobar pneumonia	4,864	4,359	93.32	84.63
Cancer and other malignant tumors	4,780	4,704	91.71	91.33
Bright's disease	4,583	4,454	87.93	86.48
<i>Diarrhea and enteritis (un- der two years of age) ..</i>	3,016	3,096	57.87	60.11
Broncho pneumonia	2,874	2,823	55.14	54.81
Arterial diseases	1,641	1,522	31.48	29.55
<i>Influenza</i>	959	1,613	18.40	31.32
<i>Diabetes</i>	910	1,006	17.29	19.53
Cirrhosis of liver.....	759	730	14.56	14.17
Diphtheria and croup.....	749	621	14.37	12.05
<i>Typhoid fever</i>	690	772	13.24	14.98
<i>Appendicitis and typhlitis....</i>	626	671	12.01	13.02
<i>Whooping cough</i>	609	674	11.69	13.08
<i>Measles</i>	564	781	10.82	15.16
Acute bronchitis	537	500	10.30	9.71
Angina pectoris	537	435	10.30	8.44

THE rise in Ohio's death rate from 14.4 in 1916 to 14.8 in 1917 represents an increase in deaths from every class of disease, except General Diseases, Diseases of the Digestive System and Diseases of the Skin, in which classes there were slight decreases. This fact is brought out in additional 1917 mortality statistics compiled by the State Bureau of Vital Statistics, supplementing the figures presented in last month's OHIO PUBLIC HEALTH JOURNAL.

Death totals and rates for the principal diseases in 1917, as compared with those for 1916, are given in the table at the beginning of this article. In another table deaths are grouped according to general classes. City death totals and death rates are also listed. Figures by counties were presented last month.

In addition to the figures given for the principal diseases, the following totals and rates are of interest:

	<i>Deaths</i> 1917.	<i>Deaths</i> 1916.	<i>Rate</i> 1917.	<i>Rate</i> 1916.
Epidemic cerebro-spinal meningitis....	313	58	6.01	1.13
Scarlet fever	197	210	3.78	4.08
Poliomyelitis	124	124	2.38	2.41
Smallpox	9	4	.17	.08

The birth tables give statistics by counties and by cities. In the state as a whole the total number of births in 1917 was 121,807, or 8,856 more than in 1916. The increase in birth rate was from 21.9 per 1,000 population to 23.4 per 1,000. Increases were registered in sixty-four counties and sixty-two cities.

DEATHS IN OHIO IN 1917 AND IN 1916, GROUPED ACCORDING TO GENERAL CLASSES OF CAUSES.

<i>Class.</i>	<i>Deaths</i> 1917.	<i>Deaths</i> 1916.	<i>Rate</i> 1917.	<i>Rate</i> 1916.
All causes	76,893	74,230	14.75	14.41
I. General diseases	19,806	19,694	382.38	380.00
II. Diseases of the nervous system..	8,676	7,999	166.46	155.31
III. Diseases of the circulatory system	11,623	11,036	223.00	214.27
IV. Diseases of the respiratory system	9,336	8,640	179.12	167.75
V. Diseases of the digestive system.	7,390	7,468	141.79	145.00
VI. Diseases of the genito-urinary system	5,954	5,865	114.24	113.87
VII. The puerperal state.....	837	801	16.06	15.55
VIII. Diseases of the skin.....	200	216	3.84	4.19
IX. Diseases of the bones.....	137	111	2.63	2.15
X. Malformations	931	926	17.86	17.97
XI. Early infancy	3,933	3,879	75.46	75.31
XII. Old age	693	785	13.30	15.24
XIII. External causes	6,845	6,324	131.33	122.79
XIV. Illdefined diseases	532	486	10.21	9.43
XV. Still births	4,895	4,575	93.92	88.83

TOTAL NUMBER OF DEATHS IN THE CITIES OF OHIO, 1916 AND 1917, FROM ALL CAUSES AND VARIOUS DISEASES, WITH RATES PER 100,000 POPULATION.

<i>Cities.</i>	<i>No. Deaths,</i> 1916.	<i>No. Deaths,</i> 1917.	<i>Rate</i> 1916.	<i>Rate</i> 1917.
Akron	1,692	2,138	19.8	24.2
Alliance	238	305	12.6	15.6
Ashland	133	106	15.7	12.1
Ashtabula	302	316	14.0	14.3
Athens	60	75	8.6	10.4
Barberton	191	223	15.2	17.0
Bellaire	222	267	14.9	17.6
Bellefontaine	122	105	13.2	11.2
Bellevue	55	62	9.3	10.3
Bowling Green	77	76	14.5	14.2
Bucyrus	130	150	14.3	11.3
Cambridge	168	173	12.7	12.7
Canton	864	1,002	13.8	15.5
Chillicothe	222	251	14.4	16.1
Cincinnati	6,743	6,833	16.5	16.5
Circleville	98	106	14.5	15.7
Cleveland	9,975	10,831	14.6	15.5
Columbus	3,336	3,390	15.4	15.2
Conneaut	121	121	13.3	13.2

Cities.	No. Deaths,		Rate	
	1916.	1917.	1916.	1917.
Coshocton	140	127	12.1	10.7
Dayton	1,935	2,051	14.2	14.7
Defiance	122	107	16.7	14.6
Delaware	166	179	16.9	18.1
Delphos	56	72	10.2	13.3
Dover	90	87	12.2	11.6
East Cleveland	159	189	12.0	13.6
East Liverpool	388	395	17.0	17.0
Elyria	282	272	15.1	14.1
Findlay	253	213	17.0	14.3
Fostoria	129	146	12.0	13.3
Fremont	186	157	18.5	15.6
Galion	111	99	15.4	13.7
Gallipolis	221	234	39.2	41.4
Greenville	84	85	12.5	12.5
Hamilton	507	515	12.0	11.8
Ironton	233	272	16.7	19.3
Jackson	72	86	12.1	14.2
Kenton	174	128	23.5	17.2
Lakewood	257	286	16.0	17.6
Lancaster	144	202	9.2	12.6
Lima	494	544	15.3	16.7
Lorain	439	384	11.9	10.0
Mansfield	304	338	13.4	15.3
Marietta	229	195	17.7	15.1
Marion	292	344	13.1	15.0
Martins Ferry	207	194	20.1	19.1
Massillon	194	214	12.7	14.0
Middletown	270	270	17.3	16.8
Mt. Vernon	166	137	15.6	12.6
Nelsonville	89	82	13.7	12.6
New Philadelphia	115	110	11.5	10.7
Newark	430	388	14.4	12.6
Niles	120	157	14.2	18.6
Norwalk	109	107	13.0	12.7
Norwood	181	179	8.1	7.7
Painesville	104	112	17.9	19.2
Piqua	211	253	14.9	17.7
Portsmouth	439	504	16.3	18.3
Ravenna	99	103	16.2	16.4
St. Bernard	69	59	11.5	9.5
St. Marys	80	58	13.4	9.7
Salem	138	184	14.1	18.5
Sandusky	293	346	14.5	17.1
Sidney	111	107	15.5	14.7
Springfield	798	859	15.5	16.1
Steubenville	514	535	18.7	18.9
Tiffin	211	218	16.9	17.4
Toledo	3,588	3,580	19.4	19.0
Troy	84	97	13.4	15.4
Urbana	129	137	15.5	16.3
Van Wert	100	100	13.1	13.0
Wapakoneta	71	75	11.4	11.7
Warren	256	286	20.2	23.1
Washington C. H.	120	127	14.6	15.1
Wellston	62	113	9.0	16.4
Wellsville	118	100	13.4	11.2
Wooster	133	128	21.5	20.7
Xenia	186	174	21.3	20.0
Youngstown	1,901	2,133	18.9	20.5
Zanesville	454	512	14.7	16.4
Totals	44,366	46,975	15.5	16.1

NUMBER OF BIRTHS, WITH BIRTH RATES PER 1,000 POPULATION,
IN OHIO, 1916 AND 1917, BY COUNTIES.

<i>Counties.</i>	<i>Births for 1916.</i>	<i>Births for 1917.</i>	<i>Rate 1916.</i>	<i>Rate 1917.</i>
Adams	435	496	17.6	19.8
Allen	1,370	1,514	22.1	24.1
Ashland	523	476	21.7	19.6
Ashtabula	1,343	1,347	20.8	20.6
Athens	1,063	1,143	19.9	21.0
Auglaize	619	599	19.8	19.1
Belmont	2,172	2,304	25.0	26.0
Brown	404	380	16.3	15.3
Butler	1,908	1,881	24.2	23.5
Carroll	261	263	16.6	16.7
Champaign	430	443	16.3	17.0
Clark	1,473	1,620	20.7	22.3
Clermont	469	475	15.9	16.1
Clinton	368	389	15.5	16.4
Columbiana	1,680	1,943	20.6	23.6
Coshocton	546	631	17.8	20.6
Crawford	660	706	19.3	20.7
Cuyahoga	20,418	22,346	26.8	28.6
Darke	930	939	21.5	21.7
Defiance	439	520	17.9	21.2
Delaware	495	490	17.9	17.7
Erie	708	726	18.3	18.7
Fairfield	823	821	19.5	19.2
Fayette	350	399	16.1	18.3
Franklin	5,146	5,282	20.0	20.1
Fulton	511	534	20.8	21.6
Gallia	396	428	15.4	16.6
Geauga	223	272	15.2	18.5
Greene	506	567	17.0	19.1
Guernsey	864	947	18.0	19.4
Hamilton	8,948	9,397	18.2	18.9
Hancock	767	726	20.3	19.2
Hardin	547	608	18.0	20.0
Harrison	310	317	16.3	16.6
Henry	571	537	22.3	21.4
Highland	449	514	15.6	17.9
Hocking	464	495	19.6	20.9
Holmes	372	378	20.8	21.1
Huron	594	638	16.8	17.9
Jackson	573	646	18.6	21.0
Jefferson	1,447	1,651	18.4	20.4
Knox	580	568	18.3	17.8
Lake	353	391	14.9	16.4
Lawrence	751	847	19.0	21.4
Licking	988	1,049	16.2	17.0
Logan	538	599	17.9	19.9
Lorain	1,980	2,006	22.2	21.9
Lucas	5,984	6,371	27.5	28.8
Mahoning	3,964	4,688	27.4	31.3
Madison	479	423	24.2	21.3
Marion	754	807	20.2	21.3
Medina	467	526	19.0	21.2
Meigs	421	508	16.4	19.8
Mercer	617	645	22.4	23.4
Miami	894	995	19.3	21.4
Monroe	456	435	18.8	18.0
Montgomery	3,915	4,257	21.2	22.6
Morgan	276	275	17.1	17.1

<i>Counties.</i>	<i>Births for 1916.</i>	<i>Births for 1917.</i>	<i>Rate 1916.</i>	<i>Rate 1917.</i>
Morrow	321	310	19.1	18.4
Muskingum	1,101	1,117	18.3	18.4
Noble	328	350	17.1	18.8
Ottawa	473	511	21.1	22.7
Paulding	469	500	20.6	22.0
Perry	696	854	18.5	22.5
Pickaway	567	587	21.7	22.4
Pike	306	330	19.5	21.0
Portage	505	626	16.3	20.1
Preble	367	453	15.3	18.9
Putnam	752	697	25.1	23.3
Richland	1,027	1,005	20.6	20.0
Ross	882	854	22.0	21.3
Sandusky	669	734	18.7	20.5
Scioto	1,321	1,480	24.8	27.4
Seneca	910	894	21.5	20.6
Shelby	597	586	24.2	23.7
Stark	3,235	3,680	23.0	25.6
Summit	5,005	6,069	38.1	45.0
Trumbull	1,213	1,498	21.4	26.2
Tuscarawas	1,279	1,386	21.6	23.3
Union	368	356	16.8	16.3
Van Wert	477	515	16.4	17.9
Vinton	281	282	21.5	21.5
Warren	424	487	17.3	19.9
Washington	764	855	16.8	18.8
Wayne	792	794	20.7	20.6
Williams	467	506	18.4	19.9
Wood	955	932	20.6	20.2
Wyandot	399	381	19.2	18.4
Total	112,951	121,807	21.9	23.4

NUMBER OF BIRTHS, WITH BIRTH RATE PER 1,000 POPULATION,
IN OHIO CITIES, 1916 AND 1917.

<i>Cities.</i>	<i>Births for 1916.</i>	<i>Births for 1917.</i>	<i>Rate 1916.</i>	<i>Rate 1917.</i>
Akron	3,598	4,549	42.0	51.5
Alliance	440	486	23.2	24.9
Ashland	191	176	22.5	20.1
Ashtabula	574	571	26.6	25.8
Athens	111	105	15.9	14.6
Barberton	487	529	38.7	40.4
Bellaire	401	426	27.0	28.1
Bellefontaine	156	174	16.9	18.5
Bellevue	114	103	19.3	17.1
Bowling Green	105	101	19.8	18.9
Bucyrus	206	226	22.6	24.4
Cambridge	316	330	23.8	24.3
Canton	1,587	1,900	25.4	29.5
Chillicothe	301	330	19.3	21.1
Cincinnati	7,501	7,872	18.4	19.0
Circleville	132	141	19.6	22.2
Cleveland	18,662	20,417	27.4	29.2
Columbus	4,325	4,417	20.0	19.9
Conneaut	214	233	23.6	25.4
Coshocton	178	228	15.2	19.2
Dayton	3,000	3,323	22.0	23.8
Defiance	171	200	23.3	27.3

<i>Cities.</i>	<i>Births for 1916.</i>	<i>Births for 1917.</i>	<i>Rate 1916.</i>	<i>Rate 1917.</i>
Delaware	181	157	18.5	15.9
Delphos	109	109	20.3	20.1
Dover	184	198	25.0	26.4
East Cleveland	218	254	16.5	18.3
East Liverpool	348	512	15.2	22.0
Elyria	434	382	23.3	19.9
Findlay	335	298	22.5	20.1
Fostoria	201	187	18.7	17.1
Fremont	237	291	23.6	29.0
Galion	104	133	14.4	18.4
Gallipolis	78	102	13.8	18.0
Greenville	118	107	17.6	15.9
Hamilton	852	916	20.1	21.0
Ironton	231	271	16.6	19.2
Jackson	94	118	15.7	19.5
Kenton	120	153	16.2	20.6
Lakewood	619	664	38.4	40.8
Lancaster	347	300	22.1	18.7
Lima	781	892	24.2	27.4
Lorain	949	1,060	25.7	27.7
Mansfield	575	504	25.3	22.9
Marietta	254	281	19.7	21.7
Marion	495	593	22.3	25.9
Martins Ferry	298	336	29.8	33.2
Massillon	816	337	20.6	22.0
Middletown	617	620	39.5	38.7
Mt. Vernon	228	201	21.5	18.5
Nelsonville	161	169	24.8	26.0
New Philadelphia	212	253	21.2	24.7
Newark	495	566	16.5	18.4
Niles	180	205	21.4	24.3
Norwalk	109	123	13.0	14.6
Norwood	298	342	13.4	14.7
Painesville	65	92	11.2	15.7
Piqua	285	318	20.1	22.3
Portsmouth	681	779	25.2	28.3
Ravenna	118	132	19.2	21.1
St. Bernard	126	135	20.9	21.8
St. Marys	123	129	20.6	21.5
Salem	219	250	22.3	25.2
Sandusky	399	454	19.8	22.4
Sidney	179	175	24.9	24.0
Springfield	1,175	1,284	22.4	24.1
Steubenville	539	658	19.6	23.3
Tiffin	258	287	20.7	22.9
Toledo	5,371	5,707	29.0	30.4
Troy	123	162	19.6	25.7
Urbana	105	136	12.6	16.2
Van Wert	109	141	14.3	18.3
Wapakoneta	112	111	17.9	17.4
Warren	436	505	34.4	39.0
Washington C. H.	107	132	13.0	15.7
Wellston	116	176	16.8	24.7
Wellsville	238	262	27.1	29.3
Wooster	126	161	20.4	26.0
Xenia	152	191	17.4	21.9
Youngstown	2,806	3,472	27.9	33.4
Zanesville	569	629	18.4	20.1
Total	68,085	74,949	23.7	25.1

The Mahoning River as a Sanitary Problem

THE pollution of the Mahoning River in the vicinity of Youngstown, with consequent danger to the health of the several communities bordering on the stream, has given rise to a sanitary problem considered by the State Department of Health to be one of the most momentous with which Ohio has had to deal. After the failure of efforts to remedy the situation by individual action on the part of the several municipalities and industrial concerns involved, the decision has been reached that the only effective means of settling the matter will be by the organization of a sanitary district through which the various political units can act collectively and therefore effectively. Accordingly, it is expected that the General Assembly will be asked this winter to pass a bill making possible the organization of such a district. The proposed bill, which is being drawn up by the Department, is modeled in a general way after the Conservancy Act.

The Mahoning River, particularly within the Youngstown district, is used as a source of water supply and as a means of disposal of liquid wastes from communities and industries more extensively than any other stream in Ohio. The rapid industrial and urban development along the river during the past few years has intensified the problem which arises from these inconsistent uses of the stream and has made imperative the early achievement of the

improvement which the state has for twenty years been endeavoring to bring about.

As early as 1898 the State Board of Health, anticipating the need of action to eliminate nuisance and protect the quality of the river water where used for public supplies, made an investigation of the river. In 1908 a more thorough study of the stream was made, leading to the conclusion that the river was grossly polluted, particularly below points of maximum population density. At low stages nuisances are observed to exist. It was pointed out that the desired results in cleaning up the river could best be accomplished by the co-operative effort of the cities and villages along the stream. In 1915 the State Board of Health made an investigation of the Mahoning River between Warren and Girard in co-operation with the State Fish and Game Commission. This investigation showed that the river was seriously polluted by the sewage from Warren and Niles, and by industrial wastes from a number of plants.

The most recent investigation was undertaken in 1916, when a general study of the entire district from Warren to the state line was undertaken. In June the principal assistant engineer visited Youngstown for the purpose of obtaining preliminary information on the discharge of industrial wastes and sewage into the river from the Youngstown district. In August a week was spent in making observations of the river over the en-

tire section covered by the investigation. In September additional data on industrial wastes were obtained. The primary purpose of these investigations was to locate the sources of pollution between Warren and the Ohio-Pennsylvania state line and ascertain the uses made of the stream between these points. It was realized that the problem of correcting the objectionable conditions of the Mahoning River is of such magnitude that the conclusions of this investigation would not justify making recommendations for remedial works. It was believed, however, that the general problem could be presented and the proper procedure for further study outlined, such study to be made with a view to adopting such corrective measures as would best protect the interests of the municipalities and industrial establishments. The substance of the report of these investigations is presented in the succeeding paragraphs.

Description of Mahoning River.—The Mahoning River rises in Columbiana and Stark Counties and flows in a northeasterly direction to Warren, from which point it flows in a southeasterly direction through the Youngstown district, leaving the state and joining the Shenango River to form the Beaver River, approximately 11 miles southeast of the Ohio-Pennsylvania state line. The total watershed area of the river is approximately 1,150 square miles, occupying portions of Stark, Portage, Trumbull, Mahoning and Columbiana Counties in Ohio, and Lawrence County in Pennsylvania. The watershed area of the stream above the point at which the river crosses the Ohio-Pennsylvania state line as meas-

ured from the topographic sheets of the United States Geological Survey, is 1,074 square miles, while above the city of Warren 25.5 miles upstream the area is 600 square miles. The river in general follows a meandering course, which in its upper reaches has a rather flat gradient. Within the Youngstown district, the bed of the stream has a fall of approximately three feet per mile. Within the district there are a number of dams across the river, the most important being that at Girard, which forms a reservoir having a spillway capacity of 200,000,000 gallons.

At the time of the investigation, the river at Youngstown had a mean daily flow estimated at 776,000,000 gallons, but at times the flow fell to 10,000,000 gallons or less. By the completion of the Milton dam since the investigation, the equalization of the flow has been made possible and it is proposed to maintain a minimum flow of 90,000,000 gallons daily. At this rate of discharge the reservoir will afford about 100 days' water supply for Youngstown. The reservoir has a capacity of nearly ten billion gallons, making it the largest artificial reservoir of its type in the state.

Youngstown District.—In the last 35 miles of its course the river flows through a rapidly growing and densely populated manufacturing district, including the territory in Ohio between Warren and the Ohio-Pennsylvania state line, a distance of 25.5 miles. Within this territory there are seven incorporated municipalities, having a total estimated population in 1916 of 136,000. There are several unincorporated communities, including the industrial villages of Mc-

Donald, Loveland Farms, the East Youngstown development of the Buckeye Land Company, and other smaller real estate allotments, which will have in 1920 a roughly estimated total population of 25,000.

The cities of Youngstown, Warren and Niles obtain their public water supplies from the river, while the villages of East Youngstown, Girard, Struthers, and Lowellville are supplied from other sources. All of the incorporated and a number of the unincorporated communities are provided with sewers which discharge directly into the river.

There were at the time of investigation 25 industrial plants within the territory, most of which were engaged in the manufacture of iron and steel products. All of these plants are located on the river, or tributaries thereto, and in most cases obtain their water supplies for industrial purposes from the river. The liquid wastes from these plants are discharged directly into the river or its tributaries without modification. The sewage from industrial plants is in most instances discharged into the river or its tributaries, although a number of the plants are without modern toilet facilities for their employees.

Condition of Mahoning River in Youngstown District.—At the time of the observation of the river, on August 11 to 18, 1916, the stream was at normal low stage. Below the sewer outlets of Warren and above the outlet from the Trumbull Steel Plant visual observations showed sewage discoloration of the flow in the quiet pools with a rather heavy deposit of sewage sludge at a number of points. Below the outlet from the

Trumbull Steel Works, the effect of acid iron wastes became very pronounced, as indicated by a reddish discoloration and heavy deposits of ferric oxide on the bed of the stream. The acid iron discoloration was very noticeable at the Niles water works intake. This discoloration, which was augmented by acid iron wastes from a number of plants in the vicinity of Niles, was perceptible downstream about one mile below the Main Street bridge at Niles. Within this latter distance below Niles there were no visual evidences of sewage pollution. Squaw Creek, which enters the river a short distance above the Girard dam, receives considerable pollution from the plant of the Ohio Leather Company, located at Girard, although the visual effects of this were lost in the pool back of the dam. No serious sewage pollution was observed below and in the vicinity of the Girard sewer outlet. On approaching the dam at the Ohio Works of the Carnegie Steel Company in Youngstown, the flow in the river became dark-brownish in color with a pronounced oily odor. This condition was caused by wastes from the plant of the Brier Hill Steel Company. The discoloration diminished to some extent after the flow in the river had passed over the Ohio Works dam. About 1½ miles downstream and between the outlet of Mill Creek and the water works intake at Youngstown, a distance of 1,500 feet, the flow in the river had a slight brownish discoloration. At this point there was considerable ebullition of gas in the river, indicating the presence of putrescible material on the bed of the stream. Below the Youngstown water works intake

the stream became darker in color and there were more pronounced evidences of sewage pollution. At the outlet of Crab Creek, where the largest sewer of the city of Youngstown discharges, the river was grossly polluted by sewage and industrial wastes. The flow in Crab Creek appeared to consist entirely of sewage and industrial wastes which added greatly to the pollution of the river. Below the plant of the Republic Iron and Steel Company, the flow in the river became more reddish in appearance, indicating the presence of acid iron wastes which had the effect of masking the sewage pollution. Below the plant of the Youngstown Sheet and Tube Works the intensity of the reddish discoloration increased and was augmented by wastes from the plants in Struthers. At the dam of the Mahoning Valley Power Company, near the Ohio-Pennsylvania state line, the flow in the river still had a pronounced reddish appearance.

In general, the sewage from the seven municipalities and the liquid wastes from the numerous industrial plants in the district grossly pollute the river. Visual observations show this pollution to be most intense at two points; viz., above the dam at the Ohio Works and below the city of Youngstown. The discoloration of the river by wastes from the industrial plants was so intense as to make somewhat obscure the visual effect of sewage pollution, although it cannot be inferred that this result prevents the sewage pollution of the stream or the contamination by sewage of the public water supplies obtained from the river.

Analytical data point strongly to the conclusion that the river is

seriously polluted throughout its course through the district. The effect of acid iron wastes is indicated by the reduced alkalinity and high iron content of the water, especially in the vicinity of the outlets from a number of steel plants. The percentage of saturation of dissolved oxygen in the water is uniformly low and indicates gross pollution. The use of the river water for cooling purposes by industrial plants is reflected by its high temperature, which below Youngstown reaches 125°F. or higher and is but slightly lower above Youngstown. This excessive temperature is one of the objectionable features in connection with its use as a source of public water supply, rendering it not only undesirable as a source for municipal supplies, but also unsatisfactory for further industrial uses at the steel mills lower down on the stream and within the district.

Use of River in District. — The cities of Warren, Niles and Youngstown obtain their public water supplies from the river and treat the water by means of modern purification plants of the rapid sand type. At Warren, where the raw water intake is located above local pollution, a rather uniform raw water is obtained, which is not subject to serious pollution that cannot be effectively dealt with by the purification processes. Niles, with an intake located five and one-half miles below the main sewer outlet of Warren and five miles below the point of discharge of industrial wastes into the river, obtains a raw water of widely fluctuating quality. The city of Youngstown obtains its public water supply through an intake located in the river at a point 15.6 miles below Warren, 8.3 miles below Niles

and 4.2 miles below Girard, the southerly or downstream corporation line being considered in each case. None of the municipalities in Ohio below Youngstown uses the river water for public supply purposes, as it is obviously unfit.

In addition to serving as a source of water supply for the cities of Warren, Niles and Youngstown the river is used as a means of sewage disposal for all of the municipalities on the river between Warren and the Ohio-Pennsylvania line.

Between Warren and the Ohio-Pennsylvania line some 16 manufacturing plants obtain their water supply from the Mahoning River. Between Warren and the Youngstown water works intake such plants pump an amount more than double the estimated dry weather flow with the Milton dam in service. The industrial wastes discharged into the river include spent pickling liquors and cooling waters which are heavily laden with oil and greatly discolored by contact with the heated metals. The cooling water raises the entire flow of the river to an abnormal temperature. One of the most noticeable characteristics of the wastes discharged into the river from the steel plants is a musty or oily odor which it is most difficult to remove by means of filtration.

Most of the industrial establishments discharged some sewage into the river, although in a number of cases modern toilets have not been installed throughout the plants.

The effect of the industrial wastes and sewage pollution is such as greatly to hinder the successful operation of the water purification plants at Niles and Youngstown. The purification of

water so grossly polluted as the Mahoning River necessitates constant and extreme care in the operation of water purification plants, as there is placed on these plants at times an unusually heavy burden which renders difficult and uncertain the production of a satisfactory effluent. At the time of the investigation—it was observed that the public water supply of Youngstown, as obtained from the taps, had a pronounced oily and musty taste and odor, similar to the odor perceptible in the raw water. These tastes and odors are due to dissolved substances which are very difficult to remove in purification processes. It seems clear that the use of the Mahoning River in its present condition in the Youngstown district, as a source of public water supply, is most undesirable and unsatisfactory, even with the present methods of purification employed.

The increase in the minimum flow afforded by the Milton Dam will tend to relieve the condition of nuisance in the river and to improve the quality of the water for industrial uses, but will not afford sufficient dilution to make the water desirable for public supply purposes. Comprehensive remedial measures are necessary if the public water supplies at present obtained from the Mahoning in the Youngstown district are to be adequately protected.

Use of Mahoning, Beaver and Ohio Rivers in Pennsylvania.—Information obtained from the Pennsylvania State Department of Health shows that no municipalities in that state use the Mahoning River as a source of public water supply. Water from the Beaver River, purified by rapid sand filters, is used by nine municipali-

ties with a total population of 31,000. Below the outlet of the Beaver River into the Ohio River, only one Pennsylvania municipality, with a population of 1,500, uses the latter river as a source of water supply, and it filters the water. The Beaver River is used to some extent as a source of industrial water supply. All Pennsylvania municipalities discharging sewage into the Beaver River or into the Ohio below the mouth of the Beaver have been required to have prepared or in course of preparation plans for sewage treatment works.

Factors Influencing Necessity for Improvement.—The discharge of sewage and industrial wastes into the Mahoning River in the Youngstown district has given rise to conditions in the stream which are detrimental to the public health of the communities on its banks, particularly those which use the river as a source of water supply. The degree of pollution has already passed the limitations of proper sanitation and necessitates the adoption of remedial measures. The effect of this pollution upon the public water supplies obtained from the river is very serious and it is questionable whether the purification plants even under the most careful control can long continue to overcome the increasing degree of pollution. The effect upon the industrial water supplies, while not serious from the standpoint of public health, is most important in its economic aspects. A clean water for industrial purposes is in many cases indispensable and is always a factor of economic importance.

During periods of dry weather flow the combined effect of industrial wastes and sewage is such as

to render the stream unfit for recreational purposes and is universally admitted to be at least a visual nuisance. Objectionable odors are not generally prevalent, although there are times at certain points where they are strikingly perceptible and undoubtedly discomforting. The present unsatisfactory conditions of the river and the growing demand for more adequate sewerage facilities resulting from the rapidly increasing population in the various political subdivisions in the district are factors which urge that immediate steps be taken to make a comprehensive study of the problem.

Résumé of Actions of the State Board of Health and State Department of Health.—As the attitude of the State Board of Health and the State Department of Health, its successor, is best indicated by the actions which have been taken from time to time during previous years, it may be well to review certain of these actions briefly.

The investigation of the Mahoning River in 1896 demonstrated the dangerous pollution of the stream and when the city of Youngstown, in 1899, proposed an abandonment of the Mahoning River as a source of water supply and the use of Mill Creek for this purpose, the State Board of Health officially commended the proposal, indicating a recognition of the undesirability of the Mahoning River as a source of water supply. In its early actions on proposals involving sewerage and sewage disposal in this district, the State Board of Health took the stand that sewage should be treated before discharging it into the Mahoning River. As early as 1895 such action was taken in the case of the

city of Warren. The investigation of the Mahoning River, made in 1908, resulted in a conclusion that the improvement of the stream could be accomplished in the most satisfactory manner by co-operative action on the part of the various municipalities. However, this method received little active support and nothing was accomplished to put it into effect. The State Board of Health therefore, continued its efforts to secure independent action by each municipality to provide proper disposal of sewage. It may be stated that during the period from 1895 to 1916 actions were taken looking toward the provision of sewage treatment plants for the following municipalities: Warren, Niles, Girard, Youngstown, East Youngstown, Struthers, and Lowellville. However, up to the present time, as previously stated, none of these municipalities has actually installed a plant for sewage treatment.

The State Board of Health consistently recognized the undesirability of the use of the Mahoning River as a source of water supply. In 1913, in connection with approval of the enlargement of the water supply for Youngstown by the construction of the Milton Reservoir, the State Board of Health demanded that steps be taken looking toward the extension of the water supply intake or the abandonment of the river as a source of supply.

The investigation of the Mahoning River, carried on in 1915, demonstrated that the condition of the stream was rapidly growing worse, due to the intensive development in the Youngstown district and the almost total disregard for the proper protection of the river from pollution. It was apparent that

action to improve the condition of the stream should not be longer delayed. This investigation gave rise to a recognition of the necessity of considering the problem as one of a district, rather than of individual municipalities and industrial establishments, and the facts disclosed made it apparent that little improvement could be hoped for through individual efforts. Therefore, when the city of Niles, in 1916, proposed an extensive sewerage improvement which was necessary for the development of the city and which involved the establishment of an outlet to discharge untreated sewage into the river, the State Board of Health permitted this improvement. Similar actions were taken in the cases of the Carnegie Steel Company's McDonald Bar Mills and McDonald Town Site in 1916 and 1917, respectively, in the case of a number of new sewer districts in the city of Youngstown in 1916 and 1917, and in the case of the Buckeye Land Company's Loveland Farms Development in 1917. In each of these actions recognition of the necessity of improved sewage disposal in the Youngstown district was expressed and conditions were attached requiring future action in the provisions of a satisfactory method of sewage disposal. In each case the department expressed the attitude that the condition and use of the Mahoning River and the location and nature of the sources of pollution made it obvious that the cleaning of the stream must result from concerted action on the part of the various municipalities and industrial establishments responsible. It was advised that the problems throughout the district as a whole should be investigated and solved as a dis-

strict problem rather than as individual ones. This attitude toward the Mahoning River problem received support in each case in which it was expressed and has been concurred in by the cities of Youngstown and Niles, by the Carnegie Steel Company, and the Buckeye Land Company, each of whom has expressed the willingness and intention of entering into any co-operative action which is most advantageous for the district as a whole.

Conclusions.—The combined effect of sewage and industrial wastes discharged into the Mahoning River from the several municipalities and industrial establishments from Warren to the Ohio-Pennsylvania state line, renders the river an unsatisfactory source of municipal water supply even where the water is treated by means of modern purification works and causes serious pollution of the stream during periods of normal dry weather flow to such an extent as to make it objectionable to the inhabitants of the district. The rapidly increasing degree of pollution resulting from the growth in population and industrial development will, in all probability, overcome the beneficial effect brought about by the increased minimum flow as a result of the construction of the Milton Dam and impounding reservoir. The condition of the river is serious and steps should be taken without delay to adopt corrective measures if the health and comfort of the citizens in the district are to be safeguarded.

As a number of the municipalities are contiguous and others nearly so, it is essential that the correction of the pollution of the river be considered as a district

problem. A thorough and comprehensive study of the disposal of sewage and industrial wastes and of water supplies should be conducted jointly by the several political subdivisions and industrial establishments in the district for the purpose of determining existing conditions and the most satisfactory remedies in the improvement of water supplies and the disposal of sewage and industrial wastes.

The Modern Health Department

The modern health department in the performance of its duty should seek to educate rather than temporize with attempts to cure ill health. Prevention is the watchword, and that old adage, "an ounce of prevention is worth a pound of cure," is the slogan of every wide-awake health officer. True, there are legal obligations imposed upon boards of health which must be met, and epidemics of disease must be combated, but the meat in the cocoanut is prevention. It is much easier to prevent disease than to cure. All that is needed is a sympathetic community and the cooperation of physicians. Give the wide-awake health department this assistance, and any community can reduce its death rate. It will take time but the trick can surely be turned. It is only a matter of educating the masses, a process, I admit, that is slow, but a persistent effort is sure to win out. The health officer looks for big things from the coming generation. The younger element is being educated along the lines which are sure to bear fruits.—*Public Health*, Michigan State Board of Health.

Cincinnati Loses Noted Health Officer by Death

Dr. John H. Landis, health officer of Cincinnati since January 1, 1910, died at Christ Hospital, Cincinnati, August 23, at the age of 58 years. His death, which was due to chronic kidney trouble, is believed to have been hastened by over-exertion in a game of golf.

Dr. Landis was Cincinnati's first health officer under the plan for reorganization of the health department, which took control of health activities out of the hands of the service director and placed it in the hands of a separate department. Each succeeding board re-elected him to the place, the health administration being entirely divorced from city politics.

As health officer, Dr. Landis broadened in many directions the activities of the department. He is credited especially with the establishment of an effective supervision of dairies, markets, groceries and restaurants, with the institution of a plan of sanitary inspection which greatly improved housing conditions in the city, with effective work for the control of tuberculosis and with pioneer activity in the fight against venereal diseases. He built up about him a strong corps of assistants who aided him in placing public health administration in Cincinnati on a high plane.

Dr. Landis was active in the American Public Health Association and the American Medical Association, besides holding memberships in many other organizations. He was a member of the Commission on National Milk Standards,

the Ohio State Medical Association, the Cincinnati Academy of Medicine, the Cincinnati Obstetrical Society, the Society for the Study of Inebriety, and the Omega Upsilon Phi Fraternity. He was a director of the Cincinnati Visiting Nurses' Association and the Cincinnati Council of Social Agencies.

Born in Millville, Ohio, October 10, 1860, the son of Dr. Abraham H. and Mary Landis, the late health officer was graduated from Logansport (Indiana) high school in 1879 and from the Ohio Medical College in 1890. He was an interne in the Cincinnati General Hospital during the year following the receipt of his degree and then entered general practice. He was later professor of pathology in Presbyterian and Laura Memorial College and a member of the staff of St. Mary's Hospital. In 1908 he became professor of hygiene at the Ohio-Miami Medical College (the medical department of the University of Cincinnati), which position he still held at the time of his death. He was appointed a member of the Cincinnati Board of Health in 1909 and at the beginning of the next year became health officer. He was married June 5, 1894, to Miss Daisy M. Graham.

Dr. William H. Peters, chief medical inspector and assistant health officer under Dr. Landis, has succeeded him as head of the department.

The following resolutions in memory of Dr. Landis were

adopted by the Cincinnati Board of Health, which ordered that they be spread on the minutes of the body and that a copy be sent to the family of the late health officer:

"Our very efficient health officer, Dr. J. H. Landis, died this morning, August twenty-third, nineteen hundred and eighteen.

"By his death the City of Cincinnati is robbed of one of her best officials and the medical profession of a shining mark. It can rarely be said of a man that he perfectly fits the position he has occupied. Of Dr. Landis it can, however, be truthfully said that he was the man for the place. Morally, mentally and socially he found his niche. He was a man of many fine attainments; he was an eloquent speaker, a great student, and always abreast of the times. As an executive officer his ability was unquestioned. He was held in highest regard by the men who worked under him. His writings, which were numerous, were copied everywhere by those who were interested in those things dear to his heart. Everything that he undertook, he entered into with vim and vigor, which always brought victory. He has filled many honorable positions besides that of health officer. He was president of the Academy of Medicine, physician at St. Mary's Hospital, and professor of hygiene at the Ohio-Miami Medical College. He was also a member of many medical societies—local and national. His services as a speaker were in great demand at medical meetings, and in no case did he disappoint his hearers. His manner, voice and clarity of diction made him easy to listen to and to understand. His honesty of purpose, strength of character and

unswerving faith in doing what he thought right, made him a tower of strength in all his undertakings.

"It can be truly said of him, 'Well done, thou good and faithful servant'."

The following tribute to Dr. Landis was written by Dr. W. H. Peters, his former assistant and his successor as health officer:

"In the death of John H. Landis Cincinnati loses one of her most progressive men.

"For more than a decade he labored earnestly in advancing public health measures. Under his leadership the affairs of the health department have been competently managed and the health of the city has never been more carefully safeguarded.

"His honesty, fine purpose and conciliatory manner made him an executive of unusual ability. His kindness, steadfastness and staunch support won the love of all subordinates in the department.

"It will be hard to fill his place as professor of hygiene at the University. His lectures, always dignified and impressive, scintillated with wit and humor. The boys will miss him.

"It is difficult to place a value on Dr. Landis' work, for enormous benefits will accrue through the years to come, but it is safe to say that he was a positive factor in reducing sickness and death rates in the city.

"Dr. Landis was a man whose influence was felt outside of home circles. In the American Public Health Association, in the councils of the New York Milk Committee and the American Academy of Public Health his judgment was respected. He was a champion for the best public health enactments."

Baby-Saving Results for Seven Months

Infant Mortality Statistics, January-July, 1918

ADDITION of July figures to infant mortality statistics already published for previous months of the year, gives Ohio a total saving of 857 babies for the four months of Children's Year, starting April 1. The quota for four months is 1,503. The actual saving falls short of the quota by 646.

The total of deaths for the four-month period was 4,259. April registered the highest number of deaths and June the lowest. The drop in June is explainable by a study of the detailed statistics, which show that in June pneumonia deaths had reached a low point and that enteritis deaths had not yet made their usual summer increase. Deaths from diarrhea and enteritis played a large part in raising the July total.

Figured for the entire seven months of 1918, instead of for merely the months since April 1, the death total amounts to 8,080, making the saving only 874, as compared with a seven months' quota of 2,631.

With a death total of 1,038, the July saving was 241; the monthly quota is 376.

Savings in the various counties can be computed from the data given in the table following:

DEATHS OF CHILDEN UNDER 5 YEARS OF AGE IN OHIO, BY COUNTIES, IN FIRST SEVEN MONTHS OF 1918, WITH 1916 TOTALS OF SUCH DEATHS AND BABY-SAVING QUOTAS FOR 1918 BASED ON THOSE TOTALS.

County.	Deaths, 1916.	Quota to be Saved, 1918.	Deaths, 1918.							Total 7 months.
			Jan.	Feb.	Mch.	Apl.	May.	June.	July.	
Total. State..	15,349	4,510	1,237	1,204	1,380	1,263	1,117	841	1,038	8,080
Adams	65	20	2	7	7	6	5	1	1	29
Allen	170	51	20	10	31	18	14	11	12	116
Ashland	42	12	2	4	5	2	1	1	1	16
Ashtabula	163	48	10	11	8	14	13	9	7	72
Athens	148	43	17	12	10	13	4	2	16	74
Auglaize	59	18	1	3	7	3	1	2	6	23
Belmont	413	120	27	22	34	24	17	12	24	160
Brown	42	12	4	4	3	1	0	3	2	17
Butler	258	75	25	27	23	13	20	8	25	141
Carroll	28	8	5	0	3	4	1	4	1	18
Champaign ..	52	16	3	7	7	1	3	4	5	30

DEATHS OF CHILDREN UNDER 5 YEARS OF AGE IN OHIO, BY COUNTIES, IN FIRST SEVEN MONTHS OF 1918, WITH 1916 TOTALS OF SUCH DEATHS AND BABY-SAVING QUOTAS FOR 1918 BASED ON THOSE TOTALS — Continued.

County.	Deaths, 1916.	Quota to be Saved, 1918.	Deaths, 1918.							Total 7 months.
			Jan.	Feb.	Mch.	Apl.	May.	June.	July	
Clark	177	51	9	19	21	20	13	15	14	111
Clermont	66	20	5	6	4	6	3	6	4	34
Clinton	38	11	3	5	3	4	4	3	3	25
Columbiana ..	252	75	17	15	22	28	20	25	18	145
Coshocton	70	21	6	3	3	2	6	3	1	24
Crawford	57	17	4	4	7	2	2	2	5	26
Cuyahoga	2,972	870	265	215	203	223	203	158	240	1,507
Darke	87	25	7	7	4	11	6	3	3	41
Defiance	42	12	3	3	7	5	2	3	3	26
Delaware	58	17	4	3	3	2	3	1	5	21
Erie	53	16	5	8	3	2	4	4	1	27
Fairfield	68	20	11	8	9	5	10	9	1	53
Fayette	48	14	9	4	9	3	2	6	1	34
Franklin	609	180	57	51	71	68	54	36	47	384
Fulton	47	14	2	4	1	3	1	3	1	15
Gallia	57	17	2	1	6	2	5	5	2	23
Geauga	23	7	2	3	4	1	1	1	5	17
Greene	68	20	5	3	11	10	6	0	5	40
Guernsey	123	36	9	11	11	8	8	4	4	55
Hamilton	1,218	355	106	117	136	113	108	88	83	751
Hancock	78	23	5	5	4	11	2	3	5	35
Hardin	90	26	3	3	11	5	5	2	9	38
Harrison	30	9	1	3	4	1	3	4	6	22
Henry	34	10	2	5	6	1	4	5	1	24
Highland	53	16	3	8	4	6	2	2	2	27
Hocking	67	20	3	3	9	13	3	4	6	41
Holmes	35	11	4	5	1	3	4	4	0	21
Huron	56	17	3	2	4	3	2	5	0	19
Jackson	87	25	7	11	6	9	10	2	6	51
Jefferson	371	105	35	27	39	34	25	28	26	214
Knox	59	18	11	2	5	3	3	3	2	29
Lake	58	17	5	3	3	2	4	2	5	24
Lawrence	157	46	6	15	19	15	8	8	11	82
Licking	121	35	8	7	11	11	5	5	5	52
Logan	48	14	6	4	2	4	2	2	1	21
Lorain	305	89	18	22	20	18	23	17	11	129
Lucas	895	265	59	58	62	49	60	41	31	360
Madison	52	16	3	2	6	2	2	1	1	17
Mahoning	867	254	66	65	92	81	75	47	97	523
Marion	101	29	5	10	13	9	11	6	3	57
Medina	50	15	7	2	4	2	4	3	6	28
Meigs	46	14	3	8	8	4	1	4	3	31
Mercer	56	17	5	7	7	5	4	5	3	36
Miami	76	23	11	10	8	2	10	3	2	46
Monroe	37	11	2	1	4	5	4	2	2	20
Montgomery ..	486	142	39	39	40	34	28	23	17	220
Morgan	20	6	1	3	1	0	2	0	1	8
Morrow	29	9	1	2	1	2	4	0	0	10

DEATHS OF CHILDEN UNDER 5 YEARS OF AGE IN OHIO, BY COUNTIES, IN FIRST SEVEN MONTHS OF 1918, WITH 1916 TOTALS OF SUCH DEATHS AND BABY-SAVING QUOTAS FOR 1918 BASED ON THOSE TOTALS—Concluded.

County.	Deaths, 1916.	Quota to be Saved, 1918.	Deaths, 1918.							Total 7 months.
			Jan.	Feb.	Mch.	Apl.	May.	June.	July.	
Muskingum ..	137	40	8	10	16	10	15	3	5	67
Noble	72	21	5	4	2	4	5	1	1	22
Ottawa	47	14	5	5	4	12	3	2	0	31
Paulding	42	12	2	5	5	3	0	1	5	21
Perry	85	26	4	4	11	7	12	3	6	47
Pickaway	72	22	4	4	11	7	7	5	6	44
Pike	43	12	2	6	3	4	2	2	3	22
Portage	76	22	4	5	9	4	8	4	4	38
Preble	27	8	3	3	3	2	2	0	2	15
Putnam	60	18	8	8	5	6	4	3	4	38
Richland	103	30	9	7	7	10	5	5	11	54
Ross	105	30	7	8	10	7	11	7	11	61
Sandusky	74	22	3	7	7	7	12	0	4	40
Scioto	251	75	19	38	29	26	8	21	24	165
Seneca	74	22	7	6	6	7	10	7	4	47
Shelby	66	19	4	8	5	3	6	7	3	36
Stark	422	123	47	25	27	32	23	16	25	195
Summit	787	230	61	63	73	72	57	44	61	431
Trumbull	226	66	12	11	19	20	23	16	13	114
Tuscarawas ..	141	41	16	8	10	9	12	6	6	67
Union	43	13	4	2	2	4	3	1	1	17
Van Wert.....	45	14	3	2	4	5	5	3	2	24
Vinton	31	9	1	3	4	5	2	1	4	20
Warren	53	16	3	4	3	5	5	1	6	27
Washington ..	98	29	5	5	13	22	6	4	3	58
Wayne	72	22	4	7	4	7	11	6	3	42
Williams	40	12	4	1	3	6	3	1	3	21
Wood	104	30	10	12	11	5	7	7	5	57
Wyandot	29	9	4	4	4	1	0	1	5	19

CHILD PAMPHLET ISSUED

The Federal Children's Bureau has just issued the third pamphlet in its series on the care of children. The new publication is entitled "Child Care." Earlier numbers in the series are "Prenatal Care" and "Infant Care." The third pamphlet deals with children from two to six years old.

"Child Care" has been prepared in the hope that it would enable mothers to understand and recog-

nize symptoms which indicate the need of special care, and also to give mothers the better understanding of the simple laws of hygiene through which it may be possible to prevent the development of such defects at all. It will be especially useful to thousands of mothers who have learned by the weighing and measuring test of defects and weaknesses in their children which need particular attention.

A Recent Word on Pneumonia Prevention

DISCUSSING "Prevention of Pneumonia" in a recent article*, Dr. Rufus Cole of the Rockefeller Institute emphasizes the new knowledge of the subject which has been gained from investigations brought about by the serious epidemic of pneumonia in the army camps last winter. He points out that an article on this subject a year ago would have dealt with the prevention of acute lobar pneumonia only, but that more recent experience demonstrates the need for considering broncho or lobular pneumonia also.

Lack of general recognition of the fact that these two distinct diseases existed side by side in the camps, and inability to differentiate between the two diseases even where their separate existence was recognized makes it impossible for us to know the relative incidence of the two kinds of pneumonia last year. The hope is expressed, however, that with the better laboratory facilities and the more widespread knowledge of the methods of differential diagnosis which now prevail, more accurate differentiation will henceforth be made.

Lobar and broncho pneumonia are considered independently, as they require different preventive methods.

Lobar pneumonia is caused by the pneumococcus, which organism is widely distributed in the mouths of healthy individuals and survives for considerable periods in dust. Preventive methods to be followed

depend upon the answer to the question: Do persons acquire the disease because they receive these bacteria into their mouths or upon their respiratory mucous surfaces, or do they acquire it because of some earlier factor which has increased their susceptibility to the disease? If the former is the reason, then measures for preventing the distribution of the bacteria must be employed; if the latter, then the distribution of the bacteria is of slight importance and attention must be given to the factors influencing resistance.

The resistance factor was considered the important one so long as all pneumococci were considered identical, but recent demonstration of the existence of several types of pneumococci and of the fact that the types causing two-thirds of the cases are not found in the mouths of well persons, other than carriers who have been in close association with patients, justifies measures to restrict the distribution of these types of pneumococci. The experience of physicians who have observed many pneumonia cases bears out this justification, as all have seen examples of contact infection, and recent studies have demonstrated the not infrequent association of cases due to pneumococci of the same type. Similar preventive measures in the case of pneumonia of the less virulent types are made advisable by the long recognized fact that the virulence of any bacterium for a given

* Journal of the American Medical Association, LXII, 8 (August 24, 1918).

species of animal is increased by repeatedly passing the bacterium through animals of that species.

Experience indicates that the factor of lowered resistance plays a certain part in pneumonia infection, so measures to prevent undue exposure and lowered resistance are recommended for preventive purposes, together with isolation of patients to as great an extent as possible. Experiments with vaccination against Types I, II and III last winter produced results which, while not conclusive, are sufficiently promising to justify more extended tests during the coming winter. In 12,000 men inoculated at Camp Upton last winter not one case of pneumonia due to pneumococci of Types I, II or III occurred, although there was a considerable number of such cases among uninoculated men in the same camp.

Broncho pneumonia, which received serious attention for the first time last winter, is believed to have been due, so far as the cases in the camps are concerned, to one organism, a hemolytic streptococcus. Whether all strains of this organism which have been isolated are identical has not been discovered. If they are found identical, the problem of prevention will be comparatively simple. If they are not identical, the conclusion must be that the essential factor causing the epidemic was something other than the organism, and the study of the spread of the disease will be made more difficult. If it should be found that these streptococci are identical with streptococci which exist as harmless organisms widely distributed outside the human body and in the throats of healthy persons, then the difficulties will be still greater. Present knowledge indicates, how-

ever, that hemolytic streptococci are rare in normal throats, except in the presence of streptococcus sore throat, and that such organisms found in dairy products are of a bovine type, harmless to man. At present, therefore, we seem justified in considering persons who harbor large numbers of actively hemolytic streptococci in the throat as potential carriers, and in giving some attention to the possibility of infection through dust, dried sputum, etc., and through food. The disease is spread, it appears at present, by fairly direct transfer of the infectious agent from the patient or a healthy carrier, either by droplet infection or through dust. The pathology of the disease suggests a relatively high immunity in man, despite the high fatality, and therefore a relatively large number of healthy carriers.

The recent epidemic among the soldiers started with infection of patients suffering from, or convalescent from, measles, none of the earlier attacks being upon healthy individuals. Later such primary infections appeared, however, affording some basis for the theory that the streptococci, first attacking persons whose resistance had been weakened by measles infection, were by that fact rendered more virulent and enabled to attack persons suffering from other respiratory diseases, such as lobar pneumonia, and finally acquired such virulence that they may now infect healthy persons.

Measures probably advisable to prevent and restrict broncho pneumonia are:

(1) Precautions to prevent the infection of persons highly susceptible to the disease, especially patients with measles, lobar pneu-

monia and other respiratory infections;

(2) Prompt diagnosis and as rigid isolation as possible in all cases of the disease;

(3) Preventive inoculation—impossible until methods have been discovered with further investigation;

(4) Detection and isolation of the healthy carrier—impracticable

at present, but similar results can be obtained by avoiding crowding and by educating men to use more care in disposing of their oral and nasal secretions.

Knowledge by the surgeons of the early symptoms of the disease, well equipped diagnostic laboratories and properly organized infectious disease hospitals are essential to the effective carrying out of these measures in the army.

FEDERAL FUNDS MAY AID STATES' CHILD HYGIENE ACTIVITIES

Federal financial aid for child hygiene activities of the states will be provided, if Congress passes duplicate bills introduced by Representative Jeanette Rankin of Montana, and Senator Robinson of Arkansas with the approval of the Children's Bureau of the Department of Labor.

The bill would grant Federal aid to state work for mothers and babies in rural districts, provided this work meets the general requirements of the bill and such detailed standards as may be fixed by the Children's Bureau. The amount allowed for the first year would be \$1,480,000, including the expenses of Federal administration. This amount would be increased each year, until in 1923-24 it would be \$2,480,000. Each state would, under certain conditions, receive \$10,000 annually. The remainder would be divided among the states upon the basis of their rural population, but amounts beyond the first \$10,000 would be available only after a state had appropriated an equal sum.

A subsidy of this kind is provided by the British government for local child welfare work. The British, however, are appropriating a larger sum, in proportion to infant population, than is proposed for the United States. The British subsidy amounts to approximately \$1,100,000 per year for fewer than 709,000 babies under one year of age, while the amount proposed for this country is \$1,480,000 for more than 1,500,000 babies in the rural districts.

T. B. CASE ESTIMATE MAY BE TOO SMALL

Statistics compiled as the result of community-wide medical examinations in connection with the health demonstration at Framingham, Mass., show that tuberculosis exists there in the ratio of twenty-one case to every death, if arrested cases are included, or nine cases to one death if only active cases are considered. The generally accepted estimate of this ratio in the past has been five or six cases to one death.

Statistical Study of Reports of Inflammation of Eyes of Newborn, 1916-17

Arranged by Miss Jessie B. Doersam and Miss Esther McClain,
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of Commerce and Journalism, Ohio State University

THE accompanying figures show the number of cases of inflammation of the eyes of the newborn reported during the fiscal year July 1, 1916, to June 30, 1917. The percentages are computed on the number of births occurring during the calendar year 1916, as shown in the report of the State Bureau of Vital Statistics. If the number of births occurring during the fiscal year covered by this study were available, the percentages might be slightly smaller than they appear in the table; for in most cities the number of births reported increases from year to year owing to (1) the growth of population by migration and (2) increased efficiency in registration. The numbers as given, however, furnish a satisfactory basis for comparisons between various health districts.

Table I indicates roughly that in the state one of every 100 babies born was reported as having inflamed eyes, and that in the larger cities of the state the proportion reported was two in every 100.

All cities having 25,000 inhabitants or more at the last census are listed in the order of their size at that time. Wide variations are evident in the number of cases of inflammation reported. In Cleveland, where the proportion is largest, the percentage is ten times as great as in Lorain where the proportion is smallest.

It must not be inferred that a small number of cases reported from any community means a small number of cases of inflammation of the eyes of the newborn occurring

TABLE I. CASES OF INFLAMMATION OF THE EYES OF THE NEWBORN REPORTED TO THE STATE DEPARTMENT OF HEALTH, BY CITIES 25,000 OR OVER, JULY 1, 1916 TO JUNE 30, 1917.

Cities.	Births reported, 1916.	Cases of inflammation reported July 1, 1916 to June 30, 1917.	
		Number	Per Cent
Cleveland	18,662	600	3.2
Cincinnati	7,501	77	1.0
Columbus	4,325	74	1.7
Toledo	5,371	142	2.6
Dayton	3,000	12	.4
Youngstown	2,806	43	1.5
Akron	3,598	15	.4
Canton	1,587	15	.9
Springfield	1,175	6	.5
Hamilton	852	11	1.3
Lima	781	13	1.6
Lorain	949	3	.3
Zanesville	569	10	1.8
Newark	495	2	.4
Total cities 25,000 or over	51,671	1,023	2.0
All other districts	61,280	231	.4
Grand total....	112,951	1,254	1.1

there, or that the country and smaller cities are more free from the causes of eye infections than are the larger cities. In two large cities, Dayton and Akron, the percentage of cases reported is the same as in the rural sections and small cities of the state. In general the proportions are higher in those cities that have well developed health work. A low percentage of cases reported is therefore not a matter for congratulation to any community, but rather a reason for self-examination.

Table II classifies according to the sources of reports the 1,254 cases of inflammation of the eyes of the newborn in the state of Ohio reported from July 1, 1916 to June 30, 1917.

TABLE II. PERSONS REPORTING CASES OF INFLAMMATION OF THE EYES OF THE NEWBORN, JULY 1, 1916, to JUNE 30, 1917.

Persons Reporting.	Cases Reported.	
	Number	Percent.
Physicians	596	47.5
Midwives	326	26.0
Nurses	249	19.9
Institutions	40	3.2
Laymen	30	2.4
Physicians and nurses	5	.4
Physicians and midwives	5	.4
Unknown	3	.2
Total	1,254	100.0

The noticeable thing in this showing is the high percentage of midwives reporting eye cases. According to figures furnished by the State Medical Board there are approximately 8,500 physicians in the

State and only 300 midwives, yet the midwives have reported one-fourth of the 1,254 cases. If the physicians had reported in the same proportion as have the midwives, the number of cases would have reached several thousand instead of a few hundred.

However, since the midwives are required, by law, to use the prophylactic prescribed by the State Department of Health, many of the cases which they report are found to be a mild reaction from the use of silver nitrate solution.

Twenty-nine cases of impairment of vision resulted from the 1,254 cases of inflammation reported from July 1, 1916, to June 30, 1917. These cases are classified as follows according to the degree of impairment:

Partial Impairment of Vision:	
In one eye.....	13
In both eyes.....	4
	17
Blindness:	
In one eye.....	6
In both eyes.....	2
	8
Blindness in one eye and partial impairment in the other.....	
	4
Total	29

During the calendar years of 1916 and 1917, seventy-five violations of the prevention of blindness act were investigated for prosecution. Fifty-eight of the seventy-five cases were referred to county prosecuting attorneys. In the remaining seventeen cases the Investigator was unable to secure sufficient evidence for conviction and after warning was given to the offenders, the cases were dismissed.

The disposition of the fifty-eight cases referred to prosecuting attorneys was as follows:

Cases in which no action was taken	29
Cases in which fine was imposed...	14
Cases in which sentence was suspended	3
Cases acquitted	11
Cases pending	1
Total	58

In just one-half of the cases reported to prosecuting attorneys no action was taken. Many of these were in a county in which one of the large cities is located. In this

city local authorities followed a mild policy of excusing offenders, with warnings, and for trivial reasons such as "ignorance of the law" or "lack of report blanks". In most cases they stopped short of enforcing the law. It is clear that the efficiency of this law depends largely upon the interest which local officials take in preventing blindness caused by inflammation of the eyes of the newborn.

Public Health Nursing Service

Report for July, 1918

City	Home Visits	Other Visits	Number Patients Under Care	Number Nurses Employed
<i>Population 100,000 and over—</i>				
Cincinnati (Anti-Tb. League).....	694	....	1,264	10
Columbus (Anti-Tb. League).....	602	173	1,042	5
Columbus (V. N. A.).....	2,671	....	905	12
Dayton	2,877	....	*1,004	10
Toledo	7,585	74	4,930	25
Youngstown	1,800	6	359	10
<i>Population 25,000 to 100,000—</i>				
Akron	2,008	436	**1,471	23
Canton	583	....	56	3
Lima	618	28	126	2
Lorain	235	....	52	1
Portsmouth	511	28	211	2
Springfield (City Health Dept.).....	431	20	324	2
Zanesville (Welfare Organization)...	72	30	65	1
Zanesville (Fed. of Women's Clubs)	95	11	20	1
<i>Population 8,000 to 25,000—</i>				
Ashtabula	55	26	6	1
Bellefontaine	127	38	41	1
Bucyrus	100	55	20	1
Cambridge	176	30	38	1
Chillicothe	317	....	119	2
Delaware	128	44	17	1
Elyria	106	11	14	1
Fostoria	42	....	*22	1
Mansfield .....	....	132	29	2
Marion	200	32	68	1
Massillon	398	40	95	1
Piqua	83	19	31	1

City	Home Visits	Other Visits	Number Patients Under Care	Number Nurses Employed
<i>Population 5,000 to 8,000—</i>				
Ashland	67	8	14	1
Circleville	188	10	48	1
Greenville	177	....	16	1
Norwalk	102	....	35	1
Ravenna	153	21	29	1
Sidney	190	65	27	1
Urbana	62	2	17	1
<i>Population 2,500 to 5,000—</i>				
Cuyahoga Falls	68	4	70	1
Greenfield (part month).....	23	7	14	1
Shelby	110	40	37	1
<i>Counties—</i>				
Hamilton			Vacation	
Jefferson	38	....	22	1
Lake	64	63	39	1
Licking (part time).....	500	....	*106	1
Trumbull	111	91	153	1
Total	24,377	1,544	*12,956	136

Of the 12,956 patients under care, 10,353 were grouped as follows, according to the nature of their cases:

<i>Communicable Diseases—</i>	
Tuberculosis	4,354
All Others	117
<i>Maternity—</i>	
Prenatal	164
Postnatal	169
Infants under two years of age (except eye).....	3,655
<i>Eye—</i>	
Infants under two years of age.....	27
All others	80
<i>Other Diseases—</i>	
Medical	1,323
Surgical	352
Social Service	112
Total	10,353

* 1,132 patients under care were not grouped according to the nature of their cases.

** Akron's 1,471 patients under care were listed as 890 Infant Welfare; 561 tuberculosis; and 20 general nursing service.

DEPARTMENTAL REPORTS BY DIVISIONS

DIVISION OF COMMUNICABLE DISEASES

Reported Cases of Notifiable Diseases, Ohio, August, 1918

Prevalence. — In order of greatest reported prevalence during August, the notifiable diseases list as follows, with comparative figures for July given:

<i>Disease</i>	REPORTED CASES	
	<i>August</i>	<i>July</i>
1. Gonorrhea	1,465	695
2. Whooping cough	847	1,683
3. Syphilis	636	317
4. Tuberculosis, all forms.....	579	565
5. Typhoid fever	443	253
6. Diphtheria	238	330
7. Measles	237	728
8. Scarlet fever	213	263
9. Smallpox	198	419
10. Mumps	148	291
11. Ophthalmia neonatorum	139	116
12. Chickenpox	81	173
13. Pneumonia, acute lobar.....	67	81
14. Poliomyelitis	51	31

For no other one notifiable diseases was a total of 50 or more cases reported for August. For the fourteen diseases listed in order of prevalence the August total is 5,342 reported cases compared with July's total of 5,945 cases. Subtracting the 2,101 cases of gonorrhea and syphilis reported during August from the month's case totals, 3,241 cases remain to compare with the July total of 4,933 for the twelve diseases, the gonorrhea and syphilis total of 1,012 cases for July being subtracted likewise, to indicate more clearly not only the marked decrease in reported cases of the twelve diseases but also the doubling, and more, of reported cases of gonorrhea and syphilis. It must be stated, however, that the marked improvement in reporting gonorrhea and syphilis can not be credited to the patriotism of our Ohio physicians who have been especially appealed to to report all cases for the protection of our army, navy and civilian, working population. More than half, about 60 per cent, of the August total of 2,101 cases of the two diseases was reported through military authorities. Of the remaining 860 cases, 517, or 60 per cent again, were reported from Akron, with more than 40 per cent of these coming not from physicians but from druggists and others who are co-operating with the Akron department of health in efforts to comply with requirements. Akron undoubtedly came close to recording all cases applying for treatment during the month. Roughly estimating on Akron's figures as a basis for reports for the rest of the state, ten times as many cases should have been reported in the state as were actually recorded. Will physicians, dentists,

druggists, and others continue to disregard their patriotic duty or shall Ohio soon lead in the control of these diseases?.. Cases must be reported for control and prevention.

Typhoid Fever.— The August total of 443 cases represents better reporting and lower figures than in past years. The cases were almost equally divided between city districts and village and township districts. See Table 1 following. The highest county total was recorded for Lucas county, 33 cases, Cuyahoga county following with 32, Tuscarawas 22, Hamilton, Scioto and Summit 21 each, Stark 16, Mahoning 14, Ross 12 and Franklin 11 cases. For no other county was a total of 10 or more cases reported for the month. That September and October totals usually exceed August totals should be kept in mind by health officers, who are urged to secure prompt reports of initial cases and institute immediate measures to prevent secondary cases.

Meningitis, Cerebrospinal.— The 31 reported cases occurred by counties as follows: Belmont, Brown, and Clark 1 each; Cuyahoga and Franklin 5 each; Hamilton 7, Jefferson and Lorain 1 each, Mahoning 2, Medina, Miami, Pickaway and Shelby 1 each, Summit 2, Trumbull 1.

Poliomyelitis.— The total of 51 reported cases is only slightly over half the number reported for August of last year and less than one-third the number recorded for August, 1916. See Table 1 below. By counties, the cases were recorded as follows:

Belmont	1	Franklin	5	Scioto	1
Clermont	2	Hamilton	8	Shelby	1
Coshocton	5	Lucas	3	Stark	2
Crawford	1	Mahoning	1	Trumbull	2
Cuyahoga	8	Medina	2	Van Wert	1
Erie	1	Miami	1	Wayne	1
Fayette	2	Morrow	1	Wood	2

Case History Reports.— Immediate report of notifiable disease should be given to the health officer by telephone or in any other rapid manner if the protection of the public health makes especial haste necessary. Health officers should secure, however, a written case history for every case required to be reported, whether first report was made by telephone or otherwise. In certain districts it has seemed advisable that the health officer fill in the written reports, although most physicians prefer to do this in all cases for their own protection. The State Department of Health supplies, free of cost, the standard report blanks for all case histories. A request for blanks made to the Department will be filled by return mail. Health officers also are expected to keep supplies of blanks on hand to distribute to physicians and others required to make reports. The health officer likewise is supplied with these blanks by the State Department of Health.

On Monday of each week the health officer is required to forward to the State Department of Health the case history card for each and every case reported during the preceding week, information from the cards having been copied for the use of the health officer in making investigations and keeping local records. The forwarding of the case

history cards on Monday of each week is more important than filling in the monthly summary report, yet many health officers consider the sending of monthly reports all sufficient. The more current the information, the more useful. Daily forwarding of reports would be advisable from those health districts who wish to reap the advantages to be gained by co-operating with their State Department of Health and their Federal Public Health Service.

The above résumé of the requirements for submitting reports is given for the benefit of those health officers who do not fully appreciate the value of prompt reports.

TABLE I. REPORTED CASES OF NOTIFIABLE DISEASES, OHIO, AUGUST, 1916-1918, WITH DISTRIBUTION FOR CITIES AND FOR VILLAGES AND TOWNSHIPS AUGUST, 1918, AND CASE RATES PER 1000 POPULATION, AUGUST, 1916-1918.

Notifiable Diseases	August, 1918			August, 1917	August, 1916	August Case Rates per 1,000 Population		
	Cities	Villages and Townships	Total*			1918	1917	1916
All Notifiable Diseases...	2,824	1,271	5,456*	4,047	3,456	1.037	.777	.670
Chickenpox	51	30	81	57	58	.015	.011	.011
Diphtheria	172	62	238	448	395	.045	.086	.076
Gonorrhea	613	57	1,465	133	165	.278	.026	.032
Measles	101	94	237	131	311	.045	.025	.060
Measles, German	5	11	16	7	20	.003	.001	.004
Meningitis, Cerebrospinal ..	23	8	31	26	7	.006	.005	.001
Mumps	46	62	148	44	44	.028	.008	.008
Ophthalmia Neonatorum ...	135	4	139	146	120	.026	.028	.023
Pneumonia, Acute Lobar...	26	9	67	59	46	.013	.011	.009
Polio-myelitis	30	21	51	93	177	.010	.018	.034
Scarlet Fever	114	98	213	228	250	.040	.044	.048
Smallpox	87	111	198	134	22	.038	.026	.004
Syphilis	179	11	636	99	64	.121	.019	.012
Trachoma	23	1	24	37	22	.005	.007	.004
Tuberculosis, All Forms...	484	94	579	533	417	.110	.102	.081
Typhoid Fever	228	215	443	517	707	.084	.099	.137
Whooping Cough	489	358	847	1,318	592	.161	.253	.115
Other Notifiable Diseases...	18	25	43	37	39	.008	.007	.008

* Reported cases from Camp Sherman and Wright Aviation Field included in total figures.

TABLE II. REPORTED CASES, TEN NOTIFIABLE DISEASES, WITH TOTAL CASE RATES PER 1,000 POPULATION OHIO CITIES, AUGUST, 1918.

City	Total Case Rate Per 1,000 Population	Total Reported Cases	Diphtheria	Measles	Meningitis Cerebrospinal	Pneumonia Acute Lobar	Poliomyelitis	Scarlet Fever	Smallpox	Tuberculosis, All Forms	Typhoid Fever	Whooping Cough
Total .....	.631	1,754	172	101	23	26	30	114	87	484	228	489
Akron	1.969	179	27	3	2	.....	.....	9	5	68	19	46
Alliance .....	.100	2	.....	1	.....	.....	.....	.....	.....	.....	1	.....
Ashland .....	.303	3	.....	.....	.....	.....	.....	.....	.....	1	2	.....
Ashtabula .....	.315	7	.....	.....	.....	.....	.....	.....	2	2	3	.....
Athens	1.206	9	.....	.....	.....	.....	.....	.....	.....	1	1	7
Barberton .....	.146	2	.....	.....	.....	.....	.....	1	1	.....	.....	.....
Bellaire	1.449	23	1	.....	1	.....	.....	4	15	.....	1	1
Bellefontaine .....	.630	6	.....	.....	.....	.....	.....	.....	.....	.....	1	5
Bellevue	1.630	10	.....	.....	.....	.....	.....	.....	.....	.....	1	9
Bowling Green* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bucyrus	1.106	10	.....	.....	.....	.....	1	.....	8	.....	.....	1
Cambridge .....	.142	2	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
Canton .....	.360	24	8	.....	.....	.....	1	2	.....	3	10	.....
Chillicothe .....	.882	14	3	.....	.....	.....	.....	3	.....	4	3	1
Cincinnati .....	.522	261	34	34	6	.....	7	5	4	104	19	48
Circleville .....	.444	3	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
Cleveland .....	.353	353	35	25	5	23	8	15	4	135	31	72
Columbus .....	.352	88	9	2	5	.....	5	13	1	26	11	16
Conneaut .....	.642	6	1	.....	.....	.....	.....	.....	.....	1	1	3
Coshocton .....	.246	3	.....	.....	.....	.....	2	.....	1	.....	.....	.....
Dayton .....	.294	42	.....	1	.....	2	.....	3	5	18	3	10
Defiance .....	.816	6	.....	.....	.....	.....	.....	.....	.....	.....	2	4
Delaware .....	.100	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Delphos .....	.183	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dover .....	.521	4	.....	.....	.....	.....	.....	.....	1	1	2	.....
East Cleveland .....	.897	13	.....	1	.....	.....	.....	.....	.....	.....	.....	12
East Liverpool .....	.129	3	.....	.....	.....	.....	.....	2	1	.....	.....	.....
Elyria .....	.550	11	.....	2	.....	.....	.....	1	.....	1	1	6
Findlay	1.876	28	2	.....	.....	.....	.....	.....	.....	1	1	21
Fostoria .....	.810	9	1	.....	.....	.....	.....	3	.....	.....	1	4
Fremont	1.089	11	.....	1	.....	1	.....	.....	1	2	2	4
Galion .....	.278	2	1	.....	.....	.....	.....	.....	1	.....	.....	.....
Gallipolis* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greenville .....	.438	3	.....	.....	.....	.....	.....	.....	.....	1	2	.....
Hamilton .....	.418	19	1	.....	.....	.....	.....	.....	10	8	.....	.....
Ironton .....	.490	7	.....	2	.....	.....	.....	.....	.....	2	3	.....
Jackson .....	.815	5	.....	.....	.....	.....	.....	4	.....	1	.....	.....
Kenton* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lakewood .....	.246	6	2	.....	.....	.....	.....	.....	.....	1	.....	3
Lancaster .....	.061	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Lima .....	.660	22	7	1	.....	.....	.....	8	1	2	2	1
Lorain .....	.950	38	3	.....	1	.....	.....	2	1	6	2	20
Mansfield .....	.173	11	.....	1	.....	.....	.....	.....	.....	2	3	9
Marietta .....	.131	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marion .....	.040	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Martins Ferry .....	.291	2	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Massillon .....	.064	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....

TABLE II. REPORTED CASES, TEN NOTIFIABLE DISEASES, WITH
TOTAL CASE RATES PER 1,000 POPULATION
OHIO CITIES, AUGUST, 1918 — Concluded.

City	Total Case Rate Per 1,000 Population	Total Reported Cases	Diphtheria	Measles	Meningitis Cerebrospinal	Pneumonia	Acute Lobar	Poliomyelitis	Scarlet Fever	Smallpox	Tuberculosis, All Forms	Typhoid Fever	Whooping Cough
Middletown .....	.549	9	.....	.....	.....	.....	.....	.....	.....	.....	8	1	.....
Mt. Vernon .....	.081	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Nelsonville* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Philadelphia	1.235	13	.....	.....	.....	.....	.....	.....	1	.....	.....	12	.....
Newark .....	.288	9	.....	.....	.....	.....	.....	.....	1	.....	3	4	1
Niles .....	.330	3	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Norwalk .....	.234	2	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....
Norwood .....	.369	9	2	2	.....	.....	.....	.....	1	.....	3	1	.....
Painesville .....	.340	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Piqua .....	.552	8	2	1	.....	.....	.....	1	1	.....	2	1	.....
Portsmouth .....	.693	21	4	1	.....	.....	.....	.....	2	4	6	4	.....
Ravenna .....	.312	2	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....
St. Bernard* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Marys* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Salem .....	.396	4	1	.....	.....	.....	.....	.....	1	.....	1	.....	1
Sandusky .....	.245	5	.....	.....	.....	.....	.....	.....	1	.....	3	.....	1
Sidney .....	.680	5	.....	.....	.....	.....	.....	1	1	.....	.....	1	2
Springfield .....	.855	45	1	3	1	.....	.....	.....	.....	2	6	5	27
Steubenville .....	.245	7	1	.....	1	.....	.....	.....	2	1	2	.....	.....
Tiffin .....	.304	4	.....	.....	.....	.....	.....	.....	.....	.....	1	1	2
Toledo	1.185	237	7	4	.....	.....	3	20	8	34	33	128	.....
Troy .....	.948	6	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
Urbana* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Van Wert* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wapakoneta .....	.306	2	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....
Warren .....	.666	9	1	.....	.....	.....	.....	.....	.....	1	1	3	3
Washington C. H. .....	.117	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Wellston .....	.435	3	.....	.....	.....	.....	.....	.....	1	.....	1	1	.....
Wellsville .....	.110	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Wooster	1.288	8	1	.....	.....	.....	.....	.....	.....	.....	.....	7	.....
Xenia	1.265	11	4	.....	.....	.....	.....	.....	2	.....	4	1	.....
Youngstown .....	.576	64	4	10	1	.....	1	3	5	6	12	22	.....
Zanesville .....	.248	8	.....	.....	.....	.....	.....	.....	.....	3	5	.....	.....

* Bowling Green, Gallipolis, Kenton, Nelsonville, St. Bernard, St. Marys, Urbana and Van Wert reported no cases of the diseases listed.

Reported Cases of Notifiable Diseases, Ohio. September, 1918.

Prevalence.—In order of greatest reported prevalence during the month of September, the notifiable diseases list as follows:

<i>Diseases.</i>	<i>Reported Cases.</i>
Typhoid fever	770
Gonorrhea	636
Whooping cough	465
Tuberculosis, all forms.....	447
Diphtheria	424
Syphilis	392
Scarlet fever	345
Measles	180
Ophthalmia neonatorum	143
Pneumonia, acute lobar.....	122
Mumps	94
Smallpox	77
Chickenpox	61

For no other one notifiable disease was a total of 50 or more cases reported for September.

Typhoid Fever.—The September total of 770 reported cases is higher than the reported figures for September, 1917, a case rate per thousand population of .146 for September, 1918, compared with .132 for September, 1917, but much lower than the total for September, 1916, 1,072 cases, or a case rate of .209 per thousand. The figure for 1918 represents more complete reporting. The following 23 cities reported five or more cases for the month: Akron 48; Ashland 7; Ashtabula 8; Canton 6; Cincinnati 16; Cleveland, 29; Columbus 14; Dayton 10; Dover 8; Fostoria 5; Lima 7; Marion 38; Nelsonville 5; New Philadelphia 9; Niles 5; Salem 8; Springfield 5; Steubenville 11; Toledo 16; Warren 10; Xenia 44; Youngstown 15; and Zanesville 7 cases.

Meningitis, Cerebrospinal.—The twenty reported cases occurred by counties as follows: Allen 1, Ashtabula 1, Athens 1, Belmont 1, Clark 2, Cuyahoga 4, Delaware 1, Hamilton 1, Mahoning 2, Summit 5 and Washington 1.

Poliomyelitis.—The total of forty reported cases is only one-half of last year's figure for September and less than one-third of the number reported in September, 1916. The cases were reported for the following counties: Ashtabula 1, Columbiana 2, Cuyahoga 4, Erie 2, Franklin 1, Fulton 3, Geauga 1, Hamilton 1, Lawrence 1, Lorain 1, Lucas 9, Montgomery 1, Paulding 1, Shelby 1, Summit 4, Tuscarawas 1, Van Wert 2, Warren 1, Washington 1, Williams 2.

Case Reports.—More cities than usual were delinquent in submitting the September report summary, as shown in footnotes to Table II. The summary report is expected to reach the State Department of Health by the fifth of the succeeding month. Delinquent reports should be mailed at once.

TABLE 1. REPORTED CASES OF NOTIFIABLE DISEASES, OHIO. SEPTEMBER, 1916-1918, WITH DISTRIBUTION FOR CITIES AND FOR VILLAGES AND TOWNSHIPS, SEPTEMBER, 1918, AND CASE RATES PER 1,000 POPULATION, SEPTEMBER, 1916-1918.

Disease.	September, 1918.			September, 1917.	September, 1916.	September Case Rates per 1,000 Population.		
	Cities.	Villages and Townships.	Total.*			1918	1917	1916
All Notifiable Dis- eases	2,738	1,164	4,328*	4,392	3,872	.822	.843	.751
Chickenpox	38	23	61	187	89	.012	.026	.017
Diphtheria	326	97	424	861	720	.081	.165	.140
Gonorrhea	495	31	636	187	154	.121	.036	.030
Measles	54	75	180	121	182	.034	.023	.035
Measles, German.....	6	10	16	9	22	.003	.002	.004
Meningitis, cerebro- spinal	16	4	20	25	5	.004	.005	.001
Mumps	25	69	94	59	24	.018	.011	.005
Ophthalmia neonatorum	142	1	143	114	112	.027	.022	.022
Pneumonia, acute lobar	47	19	122	79	74	.023	.015	.014
Poliomyelitis	24	16	40	79	147	.008	.015	.029
Scarlet fever	219	123	345	394	465	.066	.076	.090
Smallpox	41	36	77	178	37	.015	.034	.007
Syphilis	192	20	392	74	61	.074	.013	.012
Trachoma	15	13	28	25	14	.003	.005	.003
Tuberculosis, all forms.	391	56	447	517	398	.085	.099	.077
Typhoid fever.....	386	383	770	695	1,072	.146	.132	.209
Whooping cough.....	296	169	465	800	249	.088	.153	.048
Other notifiable diseases	25	19	68	38	47	.013	.007	.009

* Reported cases from Camp Sherman and Wright Aviation Field included in total figures.

TABLE II. REPORTED CASES, TEN NOTIFIABLE DISEASES, WITH
TOTAL CASE RATE PER 1,000 POPULATION, OHIO CITIES,
SEPTEMBER, 1918 — Concluded.

District Num- ber.	City.	Total Case Rate Per 1,000 Population.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis, Cerebrospinal.	Pneumonia, Acute Lobar.	Poliomyelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
4201	Mt. Vernon...	.567	7	...	...	...	...	...	1	...	3	3	...
502	Nelsonville...	1.057	7	2	...	...	...	...	...	...	...	5	...
7902	New Philadel...	1.045	11	...	...	...	...	...	1	...	1	9	...
4501	Newark .....	.608	19	2	...	...	...	...	6	...	6	5	...
7801	Niles .....	.220	2	2	...	...	...	...	...	...	...	...	...
3902	Norwalk ² .....	...	...	...	...	...	...	...	1	...	...	...	...
3102	Norwood .....	.123	3	...	...	...	...	...	1	...	2	...	...
4301	Painesville ² .....	...	...	...	...	...	...	...	...	...	...	...	...
5501	Piqua .....	.345	5	...	...	...	...	...	2	...	...	2	1
7301	Portsmouth ..	.594	18	5	...	...	...	...	4	2	1	4	2
6701	Ravenna ² .....	...	...	...	...	...	...	...	...	...	...	...	...
3103	St. Bernard...	.158	1	1	...	...	...	...	...	...	...	...	...
601	St. Marys ² .....	...	...	...	...	...	...	...	...	...	...	...	...
1502	Salem	1.287	13	...	...	...	...	1	1	1	...	8	2
2201	Sandusky .....	.343	7	...	...	...	...	...	4	1	...	2	...
7501	Sidney .....	.408	3	...	...	...	1	1	1	...	...	5	...
1201	Springfield ...	1.102	58	1	4	2	...	...	...	3	10	5	33
4101	Steubenville ..	.805	23	8	...	...	...	...	3	...	1	11	...
7402	Tiffin .....	.228	3	1	...	...	...	...	...	1	1	...	...
4801	Toledo .....	.820	164	27	5	...	...	9	20	1	48	16	38
5502	Troy .....	.632	4	1	...	...	...	...	...	...	2	1	...
1101	Urbana .....	.351	3	...	...	...	...	...	2	...	1	...	...
8101	Van Wert .....	.645	5	...	...	...	...	...	3	...	...	2	...
602	Wapakoneta ² ..	...	...	...	...	...	...	...	...	...	...	...	...
7802	Warren	1.628	22	1	...	...	1	...	1	...	4	10	5
2401	Washington C. H. ¹ .....	...	...	...	...	...	...	...	...	...	...	...	...
4002	Wellston .....	.580	4	...	...	...	...	...	...	...	2	2	...
1503	Wellsville ² .....	...	...	...	...	...	...	...	...	...	...	...	...
8501	Wooster .....	.161	1	...	...	...	...	...	...	...	...	1	...
2901	Xenia	5.060	44	...	...	...	...	...	...	...	...	44	...
5001	Youngstown ...	.792	88	24	8	1	3	...	8	3	12	15	14
6001	Zanesville .....	.372	12	...	...	...	...	...	...	...	5	7	...

¹ Cambridge, Coshocton, Gallipolis, Hamilton, Ironton, Middletown and Washington C. H. failed to submit the regular summary report by date of going to press.

² Galion, Norwalk, Painesville, Ravenna, St. Marys, Wapakoneta and Wells ville reported no cases of the diseases listed.

DIVISION OF PUBLIC HEALTH EDUCATION AND TUBERCULOSIS

Summary of Activities in August, 1918

Change in Personnel —

The Director of Exhibits, H. J. Southmayd, was appointed Acting Director August 1, upon the resignation of Director R. G. Paterson, who joined a Red Cross mission to Italy.

Tuberculosis Hospitals —

Two meetings of county commissioners in Proposed District 8 were held. At the first a committee was appointed to investigate the proposed purchase of Rocky Glen Sanitarium for use as a district hospital. At the second this committee reported unfavorably on this proposition and after an inconclusive discussion the meeting adjourned sine die.

At a meeting of the joint board of Proposed District 2, a representative of the Lima District Hospital proposed combining the new district with the Lima district. The meeting adjourned to consider the proposition.

Notifications of hospital admissions and discharges received during the month are summarized as follows:

<i>Institutions</i>	<i>Patients reported</i>	<i>Admissions</i>	<i>Discharges</i>
Ohio State Sanatorium.....	90	50	46
Butler County Sanatorium.....	5	3	3
Franklin County Sanatorium.....	55	31	37
Lucas County Tuberculosis Hospital...	34	21	18
Dayton District Hospital.....	11	5	7
Lima District Hospital.....	7	3	4
Springfield District Hospital.....	14	6	9
Springfield Lake Sanatorium.....	36	18	23
Mt. Logan Sanatorium.....	10	9	2
Rocky Glen Sanatorium.....	4	1	3
St. Anthony's Hospital.....	7	6	2
Totals	273	153	154

Total notifications, 307; referred to local public health nurses, 224; referred to health departments of other states, 4; investigated by Division nurses, 32; histories unobtainable, 21; pending investigation at end of month, 26.

Pending investigation at beginning of month, 69; investigated by Division nurses, 48; histories unobtainable, 2; pending investigation at end of month, 19. Returned by local public health nurse, 1. Total pending at end of month, 46.

Public Health Nursing Service —

Resignations of local public health nurses during the month included: Miss E. Laverne Gamble, Piqua; Miss Helen E. Johnson, Cambridge; Miss Maud Barnard, Tuscarawas County; Mrs. M. Blanche Morrissey, Elyria; Miss Norah D. Abbe, Greenfield; Mrs. Margaret Gibbons, Zanesville (Federation of Women's Clubs). All will enter the Red Cross service. New appointments included: Miss Naomi Blosser, Piqua; Miss Minnie McGee (assistant), Massillon; Mrs. Dorothy Howell, Zanesville (Federation of Women's Clubs).

Reported cases of inflammation of the eyes of the newborn numbered 138, classified as follows: (race) white 130, colored 6, unknown 2; (sex) male 65, female 70, unknown 3; (source of report) physician 53, midwife 38, nurse 39, physician and nurse 2, institution 6. Instructions were given to health officer by telephone in one case, seven cases were investigated by the Department and six cases were provided with nursing care.

Discharged Tuberculous Soldiers —

Notifications for August, with totals since the beginning of work in behalf of discharged soldiers, are summarized as follows:

	August	Summary
Notifications received	41	566
Cases referred to Public Health Nurses.....	30	394
Reports received from Public Health Nurses....	24	231
Cases written directly.....	11	167
Replies received	2	46
Cases visited by Division nurses.....	15	150
Cases admitted to hospitals.....	5	24
Cases not found.....	6	97
Cases not heard from.....	27	85

Summary of Activities in September, 1918

Public Health Nursing Service.—Mrs. Marjory McCarthy resigned as county nurse in Hamilton County and was succeeded by Mrs. Dorothy Howell. Miss Naomi Blosser was appointed public health nurse in Piqua and Miss Isles was appointed school nurse in Niles.

Reported cases of inflammation of the eyes of the newborn numbered 142, classified as follows: (by color) white 133, colored 7, unknown 2; (by sex) male 79, female 63; (by source of report) reported by physicians 28, by midwives 51, by nurses 25, by physician and nurse 3, by institutions 34, by laymen 1. In one case instructions were given to health officer by telephone, six cases were investigated by the Department, three cases of gonorrhea were investigated and placed under treatment and one case was provided with nursing care.

Three inspections of maternity homes and one visit to such an institution were made by the child welfare nurse during the month. Child hygiene exhibits were sent to four cities.

Tuberculosis Hospitals.—Proposed enlargement of Springfield Lake Sanatorium was discussed at Youngstown with the commissioners of Mahoning and Columbiana counties, who are opposed to the change on the ground that all cases brought to their attention are properly provided for and that extension is therefore unwarranted. Newspaper reports indicate that the joint board of Proposed District 2 favors uniting with the Lima district, which plan the Department opposes. A resolution to meet commissioners from other counties for the formation of a hospital district was passed by the Fairfield County commissioners September 30. Notifications of hospital admissions and discharges received during the month are summarized as follows:

	Patients Reported.	Admis- sions.	Dis- charges.
Ohio State Sanatorium.....	93	48	48
Butler County Sanatorium.....	3	2	2
Franklin County Sanatorium.....	52	24	33
Lucas County Tuberculosis Sanatorium..	54	26	33
Dayton District Hospital.....	25	9	18
Lima District Hospital.....	14	9	7
Springfield District Hospital.....	12	3	9
Springfield Lake Sanatorium.....	38	24	15
Mt. Logan Sanatorium.....	11	5	8
Rocky Glen Sanatorium.....	4	2	2
St. Anthony's Hospital.....	12	8	9
Total	318	160	184

Total notifications 344, referred to local public health nurses 262, referred to health departments of other states 5, investigated by Department nurses 22, histories unobtainable 33, pending investigation October 1, 22.

Total cases pending September 1 from August, 46; investigated by Department nurses 16, referred to public health nurses 2, histories unobtainable 2, pending investigation October 1 from August, 26. Total pending investigation October 1, 48.

Discharged Tuberculous Soldiers.— Notifications of discharged tuberculous soldiers in September, with totals since the beginning of work in behalf of these men, are summarized as follows:

	<i>September.</i>	<i>Summary.</i>
Notifications received	175	741
Cases referred to public health nurses.....	115	509
Reports received from public health nurses.....	30	261
Cases written directly.....	60	227
Replies received	9	55
Cases visited by Division nurses.....	11	161
Cases admitted to sanatoria.....	3	27
Cases not found.....	16	113
Cases not heard from.....	133	196

DIVISION OF INDUSTRIAL HYGIENE

Summary of Activities in August, 1918

The coal mines survey has been continued during the month, eighteen mines having been investigated. In addition twelve physicians in coal mining communities were interviewed, as well as two district deputy mine inspectors. The field work in connection with the survey of two large munition plants was also completed.

A paper was prepared for the Health and Old Age Insurance Commission outlining the health standards for industry, the violation of which constitutes industrial health hazards.

An investigation was conducted relative to the cause of a number of cases of conjunctivitis occurring among employees of a firm manufacturing heels for shoes from a leather substitute. Chemical analyses of the pulp used were made by the Laboratory of the Department and the probable cause found to be sulphuretted hydrogen and tannin. Recommendations were made with the view of protecting the men from future trouble.

Two cases of oil furunculosis were reported by physicians, and, in addition, 174 cases of tuberculosis among industrial workers were included in physicians' reports during this time.

DIVISION OF LABORATORIES

Summary of Activities in August, 1918

The Division made 1,552 examinations in August, of which 1,179 were bacteriological and 373 were chemical. The bacteriological examinations, with their results, were as follows:

Tuberculosis, pos. 109, neg. 221, unsatis. 0.....	330
Diphtheria, pos. 34, neg. 146, no growth 12, susp. 9.....	201
Typhoid, pos. 43, neg. 80, susp. 2.....	125
Wassermann, pos. 82, neg. 242, susp. 21.....	345
Rabies, pos. 5, neg. 11, unsatis. 5.....	21
Water	135
Miscellaneous	22

Outfits were distributed in the following quantities:

Tuberculosis	446
Diphtheria	508
Typhoid	220
Malaria	22
Wassermann	538
Ophthalmia	2,654
Typhoid vaccine	306
Chemical—water and sewage.....	32
Bacterial—water and sewage.....	142
Total	4,908

The chemical samples examined included 70 samples of foods and 81 of drugs. Results of the food examinations were: satisfactory 28, misbranded 6, adulterated 31, insufficient information 5. The misbranded products were one lemon extract and five miscellaneous extracts. The adulterated foods were: vinegar 16, milk 8, butter 1, ham-burg 1, lemon extract 3, pop 1, miscellaneous 2.

Reports on the drugs were as follows: satisfactory 44, misbranded 12, adulterated 14, insufficient information 11. The misbranded drugs included eight proprietaries and four miscellaneous. Those adulterated were: tincture of iodine 1, camphorated oil 1, bay rum 1, witch hazel 1, essence of ginger 1, proprietaries 3, miscellaneous 6.

Summary of Activities in September, 1918

The Division made 1,618 examinations in September, of which 1,354 were bacteriological and 264 were chemical. The bacteriological examinations, with their results, were as follows:

Tuberculosis, pos. 75, neg. 183.....	258
Diphtheria, pos. 51, neg. 155, susp. 6, no growth 15.....	227
Typhoid, pos. 93, neg. 114, susp. 3.....	210
Wasserman, pos. 120, neg. 308, unsatis. 12.....	440
Malaria, pos. 0, neg. 2.....	2
Rabies, pos. 6, neg. 5, unsat. 2.....	13
Water	174
Miscellaneous	30

Outfits were distributed in the following quantities:

Tuberculosis	246
Diphtheria	141
Typhoid	361
Malaria	18
Wassermann	788
Ophthalmia	1,402
Typhoid Vaccine	828
Miscellaneous	87
Chemical, water and sewage.....	24
Bacterial, water and sewage.....	231
Total	4,126

The chemical samples examined included 46 samples of foods and 44 of drugs. Results of the food examinations were: satisfactory 24, misbranded 6, adulterated 13, insufficient information 3. One of the misbranded products was an egg substitute and the others were listed as miscellaneous goods and extracts. The adulterated substances were: milk 3, butter 1, vinegar 3, pop 3, vanilla extract 3.

Reports on the drugs were as follows: satisfactory 35, misbranded 1, adulterated 5, insufficient information 3. The misbranded drug was listed as miscellaneous. The adulterated drugs included one tincture of iodine, one sodium salicylate and three miscellaneous.

DIVISION OF SANITARY ENGINEERING

Summary of Activities in August, 1918

Investigations by the Division during August dealt with thirteen existing and five proposed water supplies and water purification systems, with four existing and ten proposed sewerage systems and sewage treatment plants, with three cases of alleged nuisance, with one school site, with one case of general sanitary conditions and with one case of garbage disposal.

Two sets of water supply and water purification plans and sixteen sets of sewerage and sewage treatment plans were received and examined.

Reports submitted to the Commissioner of Health dealt with an investigation of alleged pollution of the Auglaize River by industrial wastes from Delphos, with proposed sewerage and sewage disposal for a portion of the village of Milan, with the proposed East Side intercepting sanitary sewer for Canton and with two minor sewerage and sewage treatment projects.

A sample of sand representing the material to be used in intermittent sand filters for the Kidder Country Club, Montgomery County, was approved, fulfilling the second condition of approval of plans for the sewage treatment works.

Twenty conferences regarding water supplies, sewerage and related subjects were held.

Eight certificates of approval of railroad water supplies were issued and two applications for such certificates were refused.

Summary of Activities in September, 1918

Investigations by the Division during September dealt with ten existing and four proposed water supplies and water purification systems, and with twelve existing and eleven proposed sewerage systems and sewage treatment plants.

Three sets of water supply and water purification plans and eighteen sets of sewerage and sewage disposal plans were examined.

Reports were submitted to the Commissioner of Health regarding two minor sewer projects.

A sample of sand representing filtering material to be used in the sewage treatment plant at Eden Township school, Wyandot County, was approved.

Seven conferences on sanitary engineering subjects were held with city officials, engineers, health officials and other interested persons.

Three certificates of approval of railroad water supplies were granted and one was refused.

DIVISION OF PLUMBING

Summary of Activities in August, 1918

Seventy-seven inspections and six investigations were made by the Division in August. Four certificates of approval were issued and five sets of plans were approved. Seven conferences were held.

BUREAU OF PUBLICITY, DIVISION OF ADMINISTRATION

Summary of Activities in August, 1918

Thirteen publicity stories were released during the month, of which eleven were issued through the weekly News Letter, attaining a total circulation of 3,404,684 printed copies (incomplete), an average of 309,517 copies per story.

Three social hygiene pamphlets (5,000 copies of each) were received from the printer. Copy for Volume IX, Number 8 (August, 1918) of the OHIO PUBLIC HEALTH JOURNAL was prepared for the printer. Requisitions for ten pieces of printing and bindery work were issued.

Thirty-three books and pamphlets were added to the Library during the month.

Summary of Activities, September, 1918

Seventeen newspaper publicity stories were released during the month. The sixteen of these which were released through the weekly News Letter attained a story circulation (total number of printed copies) of 3,800,070 (incomplete) or an average of 237,504 copies per story.

A second printing of 10,000 copies each of the three sex hygiene pamphlets recently issued by the Department, and 500 and 750 copies, respectively, of two reprints from the August OHIO PUBLIC HEALTH JOURNAL were ordered. A new and up-to-date list of Department publications was compiled.

Copy was prepared for Volume IX, Number 9 (September, 1918), of the OHIO PUBLIC HEALTH JOURNAL. To permit a change in the date of going to press from the 10th to the 31st of the month, it was decided to delay printing the September number and to combine it with the October number as a double issue.

Ten books, eighteen pamphlets and the usual periodicals were received for the Department library.

CONSERVE MILK AND SUPPLY CHILDREN FIRST, URGES FEDERAL BUREAU

"The results of underfeeding or indiscriminate food substitution in childhood are startlingly shown abroad as a result of the war, and are beginning to be evident in our own great cities." And "milk has no substitute in the diet of the child." These and other unqualified statements of the importance of guarding the milk supply to prevent the physical deterioration of American children during the war are scattered through the latest report issued by the Children's Bureau of the U. S. Department of Labor and entitled "Milk, the Indispensable Food for Children."

This report presents figures showing a decrease in the amount of milk now available and in the amount which is finding its way to the children in poor homes. It not only emphasizes the fact that children who are deprived of milk can not thrive properly, but it analyzes the changes in the production and export of dairy products during the war and shows the necessity of public action.

"The nourishment of our children is the first duty of the Nation. Since milk and milk products are a vital necessity for children, for nursing mothers, and for the sick and wounded, the public should be made to realize that the children's need for dairy products should be assured," the report asserts.

England and Italy have regulated the sale of cream and curtailed the use of butter, in order that their child population might receive the more adequate and economical nourishment offered by whole milk. Germany, early in the

war, provided that the adult civilian population might have milk only after the needs of children, mothers, invalids and the army were met.

The report discusses the various forms in which cow's milk may be used for children. For the young baby, it says, there is nothing so good as mother's milk.

But for children under 2, other than those breast fed, and for older children, the report states that cows' milk is an absolute necessity if disease and death are to be kept within bounds and if the coming generation is to survive and to sustain the national standards.

"It is the duty now of every individual community to see that its children have milk of good quality and in sufficient amount to assure their normal development," urges the report. "To do this the price of milk must be controlled or fixed, and the milk supply to infants and children carefully safeguarded."

The New York City health department has estimated that at some time or other in their lives eight out of every ten men and five out of every ten women have had gonorrhea at least once.

* * *

The first scoring of Ashtabula restaurants and other eating-places by the city health department under a new inspection ordinance resulted in scores ranging from 57 to 96 percent. A score of 70 is required for a city license. The scores were published in the Ashtabula papers.

HEALTH OFFICERS' ROUNDTABLE

Better Reporting Sought

A new departure which should bring about better reporting of communicable diseases in Springfield is the publication of a table, in Health Director Starr's annual report for 1917, showing the number of cases of each notifiable disease reported by each physician during the year.

Several physicians have no reports whatever to their credit, and many others are credited with only one, two or three. An "advertising physician" reports more cases of venereal disease than all other physicians combined. Forty-nine physicians sent in no reports of whooping cough; all physicians together reported only fifty-five cases of this disease, while health department workers reported thirty and neighbors reported seventy-seven. Thirteen cases of lobar pneumonia were reported by six doctors, the remaining sixty-six reporting no cases of this disease.

The Springfield authorities in a recent prosecution had a fine of fifty dollars assessed against a physician who failed to report a case of inflammation of the eyes of the newborn. The doctor's plea was ignorance of the law.

Cities Have New Health Officers

Dr. H. L. Rockwood has been appointed commissioner of health in Cleveland, succeeding Dr. R. H. Bishop, Jr., now engaged in Red Cross anti-tuberculosis work in Italy.

Dr. R. W. Colville is Mt. Vernon's new health officer. He fills the vacancy created by the resignation of Dr. H. W. Blair, who has received an army commission.

Dr. Charles A. La Mont has succeeded Dr. F. M. Sayre as health officer in Canton. The former incumbent is in the medical corps of the navy.

Dr. Henry Krone has been appointed to the position of health officer in Hamilton, vacated when Dr. H. L. Smedley entered the army.

City Has Two Health Boards

Following the removal from office of the members of the Hamilton board of health, upon charges of neglect of duty, preferred by the mayor, an entirely new board was appointed. The new board retained the employees of the old board. The former board refused to recognize the removal as legal and continued to hold its regular sessions, Health Officer Krone rendering his regular reports to both boards.

Pasteurization Kills Germs

An incident mentioned in the 1917 report of the Winnipeg health department is worthy of note as demonstrating the value of pasteurization of milk. Several employees of a creamery contracted typhoid fever by drinking raw cream from the supply used for butter-making. Not one case oc-

curred among users of the concern's butter. The explanation: the cream was pasteurized before churning.

Akron Charter on Health

The Akron health department will be a major division of the city administration, independent of other branches, if voters of the city in November adopt the charter drawn up by the charter commission. After extended study the commission drew up health department provisions, providing for a health commission of five members, two of whom are to be physicians, appointed by the chief administrator. A director of health is to be named by the health commission.

Provision for a sound financial basis of health work is made in a clause whereby council must make an annual appropriation of not less than fifty cents per capita, the number of inhabitants to be estimated at five times the number of children of school age, as enumerated in the school census.

Health department duties enumerated in the proposed charter are: protection of the city from disease and insanitary conditions, enforcement of medical inspection and compulsory corrective measures among school children and other health activities.

Social Disease

(Akron Beacon-Journal.)

We are gradually getting up our courage to face somewhat frankly the venereal disease problem, even among our civilian population. The army had to meet it and to try to solve it. The early years of the

war showed the importance of it and the menace to efficiency contained in it. Early colonial troops were hard hit by it and were put out of action literally by the thousands. The army doctors found, too, that even in cases where the disease had been arrested the man was much less able to recover from wounds than he would ordinarily have been, that he had less recuperative power.

It became an important factor in maintaining the efficiency of the army. So when the American army was organized the subject was tackled without gloves. The banishing of booze, the twin brother of sex disease, was a first step. Methods of control were gradually enlarged. The regions around training camps were cleaned up, clinics were established in camp, segregation of cases ordered and medical treatment given.

The army has demonstrated that a large measure of control can be secured. Figures have been published showing that of all cases of disease in camp, only 17 per cent were acquired after the men entered the army. The other 83 brought the disease to camp with them and were promptly segregated and treated. Furthermore, it is stated, that no man so afflicted will be sent overseas, being held for duty in this country.

The methods of the medical corps of the army, under direction of Surgeon General Gorgas, have largely proved themselves effective. And if this is the case, it is a logical step to apply the same methods as far as possible to the civilian population. We cannot expect, of course, the same degree of discipline among the people at home as can be instituted among men in camp. But a big city may be kept

reasonably clean if city officials are willing to insist that this can be done. And the establishment of clinics where afflicted men can be treated is another big step ahead.

A great deal has been published about the prevalence of social dis-

eases, and their direful effect on the individual. It is none too soon to start on more aggressive and constructive measures toward stamping it out, or at least reducing it to less dangerous proportions.

PUBLIC HEALTH NOTES FROM OVER THE STATE

Ohio's two newest district tuberculosis hospitals will be enlarged if movements which have been started in the districts meet with success. The Dayton Tuberculosis Society has asked the joint board of commissioners in the Dayton district to appropriate funds for adding cottages to the new Stillwater Sanatorium, which now has accommodations for forty-six patients. Plans to enlarge the new Chillicothe hospital so as to provide more room for incipient cases are being considered.

Changes in administrative personnel have resulted at Stillwater Sanatorium from the resignations of Mrs. M. E. Ahlborn, maintenance superintendent, and Dr. J. D. Kramer, medical superintendent. Miss Martha E. Dull, accountant for the institution, and Dr. E. B. Markey, former medical superintendent, were put in temporary charge by the trustees.

* * *

School vaccination requirements were put into effect in Athens and Portsmouth before the opening of the fall term. In Greenfield methods of checking the spread of communicable diseases in the public schools were discussed at a recent joint meeting of the board of

health, the board of education, the Public Health League and the physicians of the town.

* * *

W. I. Van Arnum, recently engaged in water purification work in Bridgeport, Conn., and for seven years prior to that in charge of the Cohoes (N. Y.) purification plant, has been appointed superintendent of the Youngstown filtration plant.

* * *

Resolutions endorsing proposals that Fairfield County enter a tuberculosis hospital district and petitioning the county commissioners to co-operate immediately with such other counties as might be selected in the organization of such a district were recently passed by the Lancaster Chamber of Commerce. The Lancaster newspapers are giving strong support to the project.

* * *

Dr. Stephen A. Douglass, superintendent of the State Tuberculosis Sanatorium, in his annual report for 1917 to the Board of Administration, recommended either the establishment of a state sanatorium for tuberculous children or the enlargement of the present Mt. Ver-

non institution to provide accommodations for children.

Dr. Douglas has been granted a leave of absence in order to enable him to take up work with the Red Cross tuberculosis commisison in Italy.

* * *

To educate the people of Chillicothe in methods of typhoid prevention, the health authorities in that city in the latter part of August distributed handbills reading as follows:

IMPORTANT NOTICE

Typhoid Fever Prevention

The danger of contracting typhoid fever at this season of the year is great and the large number of visitors to Chillicothe makes it doubly necessary to take all possible precaution.

Typhoid fever is usually caused by the entrance of the germ of this disease into the alimentary tract in the food or water. The following precautions are urged upon all:

1. Do not drink any water, unless known to be pure, without previous boiling. The city water is much safer than that from private wells or cisterns.
2. Be sure that all uncooked vegetables and fruits are thoroughly washed with pure water before eating.
3. Make the privy vaults and the home fly proof as flies are a common carrier of typhoid germs, coming directly from privy vault, stable, etc., to your table.
4. Thoroughly disinfect all discharges from typhoid patients and disinfect the hands after caring for the patient.
5. Secure immunity from typhoid fever by inoculations. These will be given you by your family physician or can be obtained free of charge at Dr. Hanley's office, 84 E. Second street.

D. E. ROBINSON, Surgeon,
U. S. Public Health Service, Health Officer.

* * *

A "council of municipal housekeepers" is the instrument by which Dr. Jean Dawson, chief of the Cleveland health department's

bureau of fly prevention, proposes to improve health conditions in the Sixth City.

The council, as proposed by Dr. Dawson, would include a chief municipal housekeeper and an assistant for each of the city's twenty-six wards. The duties of the council would include prevention of insanitary disposal of garbage, elimination of weeds, reporting of sick and neglected children, encouragement of mothers to patronize baby dispensaries and management of fly-prevention work. The body would hold weekly meetings and would be responsible to the health department.

* * *

Cleveland's fight against venereal diseases is being aided by an appropriation of \$8,600, granted by the mayor's war board for the establishment of clinics.

* * *

In regard to Cincinnati's leadership in typhoid fever prevention among the cities of the state, as indicated by the mortality rates, the Cincinnati *Times-Star* makes the following editorial comment:

The statistics of typhoid fever during 1917, issued by the State Bureau of Vital Statistics, give Cincinnati the position of honor among the cities of Ohio. The relative number of deaths from typhoid in Cincinnati was approximately one-half the number in Cleveland, which stood second, and one-tenth the number of deaths in Youngstown or Akron. The sixteen deaths in Cincinnati represented but 3.9 persons for every hundred thousand.

The reassuring figures prove that from a city with about the worst water in the world, Cincinnati has become a city with about the best water in the world. Instead of a muddy fluid that was almost a thing of loaves and fishes, we now have limpid, sparkling aqua pura.

It is a great municipal advancement. Opposed, kicked about as a political football, pondered in the courts, our

new water works emerged triumphant as a "public utility," in the best sense of the term. Perhaps some day we shall have a rapid transit system, when the disgruntled shall have ceased kicking and the judges shall have ceased pondering.

* * *

Continuance of Red Cross Sanitary Unit No. 10, at Chillicothe, until December 31, has been assured by an appropriation of \$10,600 from the Red Cross war fund. The district comprises the whole of Ross County, including Camp Sherman and the city of Chillicothe, which has been confronted by a sanitary problem greater than it could meet alone, as the result of the sudden growth in population caused by the establishment of the camp nearby.

* * *

The first case of pellagra reported in Ohio in 1918 occurred in Newark in August and was investigated by the epidemiologist of the State Department of Health. The patient, a woman of 36 years, gave a history of having eaten much dried sweet corn in recent years, being unable to obtain proper food because of the failure of her husband to support her.

* * *

No Red Cross Christmas seals will be sold this year or in later years during the war, according to an agreement between the American Red Cross and the National Tuberculosis Association. The tuberculosis work heretofore supported by the seal sale will be financed by an appropriation from the Red Cross war fund. Tuberculosis organizations will aid the Red Cross membership campaign and Christmas seals, with tuberculosis literature, will be given to

every member enrolled during the campaign.

* * *

Nursing staffs in Akron's four infant welfare clinics were reduced to one nurse each in September, with the necessary withdrawal of school nurses to take up medical inspection work. Child welfare work will be under a handicap until it is possible to increase the nursing staff of the health department, Miss Olive E. Beason, director of the department's division of public health nursing, pointed out in her monthly report for August.

* * *

Two Cincinnati children contracted typhoid fever by drinking water from a polluted spring, one case being fatal. The spring was drained to prevent further use. The Cincinnati *Sanitary Bulletin*, published by the city health department, makes this comment on the cases:

Here is another instance of sickness and death which should never have been recorded. With city water on the premises we get the history that mother and child patronized the spring, which is about 500 feet in the rear of the house.

Again we must caution people not to drink from irregular water supplies. Cincinnati is noted for the purity of its water. Why take a chance on any spring, cistern, or well if you can get pure filtered water

Many of the physical defects which caused the rejection of one-third of the men coming up for examination in the first draft are believed to date from some slight trouble neglected in early childhood. A higher standard of physical fitness in the rising generation can be assured only by greater attention to the physical condition of children.

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THE DEPARTMENT'S ROLL OF HONOR

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EDITORIALS

Peace Brings Prospect of Public Health Advancement

Peace! The announcement opens up a vista of wonderful possibilities for advancement in the field of public health. Turning from the works of war to the works of peace, the American people possess a new spirit of patriotism, a new national consciousness that cannot die out with the end of the war. This regenerated patriotism is a thing of peace as well as of war — a spirit which will lead to united interest in national advancement as well as to the waving of flags in celebration of victory.

One fundamental phase of the national advancement which we may confidently expect is increased activity for the betterment of the public health. Present conditions all favor such a development. The war has demonstrated the prime importance of maintaining high standards of health as a means of keeping up national efficiency. The men returning from the army have received sanitary training as well as military training, and as they take up civil pursuits again they are going to demand that civil authorities give them health protection equal to that which they

have received while in the army. The men in the medical forces of the army, recruited from among physicians all over the country, have received invaluable training in the science of sanitation, and will provide ample personnel for any program of public health protection which may be undertaken. For the first time in history, with the impetus afforded by the war, the country will have at its command an adequate supply of nurses, many of whom can be enlisted in public health work.

In the development which is at hand, Ohio must do her part. As she has given bountifully to the work of winning the war and establishing the supremacy of democratic ideals, so must she support the program by which the nation can maintain its place as a defender of freedom. Ohio must maintain the health of her people if she is to play her just part in the reconstruction of the world.

To give proper health protection, Ohio must remodel the antiquated public health machinery which is being so severely strained by modern needs. In brief, adequate supervisory authority must be placed in the hands of the State and means must be provided by which trained men can be placed in service as local health officers.

A program with this as an object is to be set in motion this winter. True patriotism demands that this program be given as firm support as any Liberty Loan or War Savings campaign.

* * *

Consider Your Neighbor's Situation Before You Reopen

Recurrence of an influenza outbreak which was supposed to be over is the price several Ohio communities have had to pay for being too hasty in rescinding closing orders adopted as measures to restrict the spread of the disease.

Cambridge, Coshocton, New Lexington, Bellaire, Bridgeport and Martins Ferry are among the places in which such recurrent epidemics have been noted. The local health authorities in these towns authorized the reopening of public gathering places when the situations in their districts appeared to justify such action. Although the disease had died out in the towns, however, it was still prevalent in surrounding rural districts. Consequently, as soon as theatres, churches and other places were reopened in the towns, the disease was reintroduced by visitors from the country.

The State Department of Health cannot emphasize too strongly the statement that the advisability of rescinding closing orders is not to be determined by considering conditions in one health district alone. Conditions in surrounding districts must also be taken into consideration.

No board of health should authorize the resumption of public gatherings in its district when influenza is still prevalent in a nearby district from which visitors are likely to come to attend the reopened places of public assemblage.

* * *

Be Progressive: Attend A. P. H. A. Meeting The second week in December will see progressive health officials from all over North America assembled in Chicago for the annual meeting of the American Public Health Association. It is to be hoped that among this number will be a good representation from Ohio's health forces.

Health officials who have neglected joining the Public Health Association should send in their applications at once. The State Department of Health will be pleased to receive applications for membership in the Association and forward them to the proper authorities. The membership fee is five dollars yearly, which gives in addition to membership a year's subscription to the monthly *American Journal of Public Health*—the Association's official organ, which costs non-members four dollars a year.

If you are not already a member, show your interest in public health progress by applying for membership immediately and by attending the convention in Chicago December 9-12.

* * *

Influenza and Ohio's Local Public Health Organization Last February the OHIO PUBLIC HEALTH JOURNAL published a brief article entitled "The Smallpox Situation and Ohio's Local Health Organization," telling how the smallpox epidemic was "showing up" the inefficiency of the State's local public health machinery.

A similar article might be based on the influenza outbreak. Not many local health departments have entirely broken down under the strain, it is true, although there have been several such instances. In very many communities, however, a woeful amount of inefficiency and ignorance has been displayed. As in the case which formed the basis of the article last February, all that many local health officials were able to do was to call upon the State Department of Health for help, and, as was also the case last fall, the inadequate force at the disposal of the Department was unable to give the local communities the kind of assistance they needed.

We quote from the article in last February's JOURNAL:

"Health protection in any true sense is not available to a large part of the population of Ohio. It cannot be made available by appointing the village marshal as health officer at four dollars per year. It cannot

be made available by the present State Department of Health, with an appropriation of little more than two cents per capita for the State. It can be had only by the formation of health districts sufficiently large to provide for the services of a competent health officer at a reasonable salary and providing back of the local organization a State organization sufficiently extensive to supervise the health administration of five million people."

* * *

Opportunity to Strengthen Health Organization Here

It is difficult to find much good in the influenza epidemic. Those who are optimistically inclined, however, may rejoice over the manner in which it has brought the public health machinery of the State into the limelight. The public mind is in a receptive mood for suggestions for strengthening this part of the governmental organization, and persons interested in achieving this result should not fail to improve the opportunity thus offered.

The public, it should be remembered, is thinking of the health department as a means of controlling an epidemic after it has appeared. It must be educated to the broader view that the function of the health department is to prevent the appearance of disease—to make conditions such that disease will have the greatest possible difficulty in obtaining a foothold.

This advanced viewpoint, while vitally important in measuring the efficiency of a health organization, does not logically represent so great a change in popular thought. Guided by judicious educational efforts on the part of believers in a strong public health organization, the public will readily accept the idea of the health department as a preventive, rather than a curative, factor.

The time for such educational work is now ripe, when the public is devoting more than a usual amount of thought to the health department. When the true importance of an efficient health organization is made clear to voters and legislators, health officials can devote less time to struggling for necessary funds and more to constructive, result-producing work.

* * *

Treatment Most Important Means of Checking Venereal Disease

The percentages according to which Ohio's Federal allotment for venereal disease prevention has been apportioned to the several phases of this work, stated elsewhere in this magazine, express the relative degrees of importance assigned to these lines of activity by competent authorities.

Treatment, it will be noted, receives sixty percent of the allotment. The relatively large part which treatment must play in venereal disease prevention is due to the nature of the spread of these diseases. The diseased prostitute is the great source of infection. Therefore she must be treated, and treatment must be continued as long as necessary to make her no longer a menace to the public health. The diseased prostitute has received her infection from a diseased man. If, therefore, we provide clinics for the treatment of male venereal sufferers and force such men to continue treatment until cured, we have removed another source of infection.

That immediate results in terms of lowered venereal disease prevalence will follow extended activity in the field of treatment is evident. To obtain such results by repressing prostitution and educating the public in sex hygiene, without due attention to treatment, would consume far more time.

The importance of repression and education, it is needless to point out, is fully recognized by students of venereal disease. In the beginning of a campaign, however, these two phases of the work must necessarily be subordinated. As treatment produces its results, the need for treatment will decrease, and as the campaign goes on, the relative importance of education and repression will rise.

* * *

Reporting and Printing the Facts in Akron

Continuing its policy of speaking plainly on the subject of venereal diseases, the Akron *Times* recently published the following editorial, under the heading "An Issue That Must Be Met":

Seventy-two per cent. of contagious diseases reported to the city health department last week were due to venereal infection.

Now what does this mean?

It means that far over half of illness due to contagion in this great city arises not from our inadequate sewage system, not from the foul and reeking conditions that can be found in congested districts, not from contaminated wells or from the common drinking cup, but from violation of the most sacred laws and rules affecting the conduct of the sexes.

It means that human beings are transmitting to others loathsome diseases thru a means that offends law, Scripture, common decency and self-respect.

It means that immorality is practiced to an extent undreamed of until the new state law required an accounting.

We do not believe that the percentage of venereal infection is higher in Akron than in other large cities in Ohio, but the fact that we are no worse off than others in no degree lightens the terrific responsibility that has been placed on this city by publication of the health department's report.

If 72 per cent. of contagious diseases in Akron were smallpox we would be isolated from surrounding communities, schools would be closed, business would be materially interfered with and all the resources of the city would be devoted toward wiping out the plague.

Smallpox rarely kills. It cannot go about in disguise, as venereal infection can. It cannot be transmitted to unborn children, as venereal infection can. It does not unseat the mind, as venereal infection does.

A duty that cannot be ignored confronts the city. That is to reduce the cause of infection as much as it is susceptible of being reduced. This cannot be done by wringing our hands and saying it is an age old problem that cannot be solved. It has passed the danger mark, and if we leave undone anything that can be done what will we say when we ask for large bond issues to minimize conditions not half so bad as the circumstances (whatever they are) that are responsible for the almost unbelievable prevalence of venereal disease?

As the OHIO PUBLIC HEALTH JOURNAL recently remarked, in commenting upon the fact that Akron was reporting more venereal cases than any other city in the State, there is no reason to believe that Akron has a higher prevalence than many other cities. The physicians and health officials of the Rubber City have simply awakened much earlier than have some of their colleagues elsewhere to the importance of reporting these diseases.

The facts which are being brought out by the efforts of these men to obey the regulations, backed by the activities of newspapers which are not afraid to print the truth, should do much to educate the people of Akron in regard to the danger within their gates.

Editors, physicians and health officials should profit by the example here given of what they can do to restrict the spread of venereal diseases, the greatest health menace of the day.

What are the real figures on venereal prevalence in your city? How do they compare with the reported figures?

* * *

Some Water Supply Lessons in a Typhoid Epidemic

Two lessons are to be learned from the recent Xenia typhoid epidemic, described elsewhere in this magazine. The first of these is that no community should depend for its water supply upon a source which is safe only with disinfection. The second is that no purification plant can safely be operated without expert supervision.

Disinfection, like anything else in which the human factor is all-important, is an exceedingly fallible process. It is safe only insofar as the man entrusted with the addition of the chemicals performs his duties unerringly and as the chemicals used are of good quality. If the man

in charge of the plant makes a mistake or if a low-grade supply of chemicals is received, the public is exposed to an epidemic like Xenia's.

In Xenia no blame is to be attached to the superintendent of the disinfection plant. He was faithful in the performance of his duties as they had been mapped out for him: he added a given amount of bleaching powder regularly for a given quantity of water pumped.

The bleaching powder, however, was below normal strength. And the superintendent, having no chemical training, could not detect this fact. As a result, the people suffered. So are they likely to suffer in other cities of the State where similar conditions exist.

Every community using water from a source so impure as to require disinfection should begin developing a new supply as soon as possible. In the meantime bleaching powder, if used, should be abandoned in favor of liquid chlorine, not subject to deterioration such as occurred in Xenia, and the plant should be supervised by a technically trained expert, able to keep a careful check upon the quality of the disinfected water.

* * *

Expert Supervision Necessary in Water Purification

In connection with the fact of the lack of expert supervision at the Xenia water disinfection plant, brought out in the foregoing paragraphs, it is of interest to note the extent to which such supervision prevails in the purification plants of the State in general, both those employing the disinfection method and those filtering their water by the rapid sand process. Figures on this subject have been compiled by the Division of Sanitary Engineering of the State Department of Health.

There are in operation in the State forty-eight filter plants and twelve disinfection plants. Of the filter plants thirty-two have and sixteen have not expert technical supervision. For the disinfection plants the figures are: eight with and four without such supervision.

A further analysis of the figures shows that the privately owned plants are greater offenders in this regard than are those under municipal ownership. Of the sixteen privately owned filter plants, only seven have expert supervision, while only seven of the thirty-two municipal filter plants are without such supervision. In the disinfection plant class the score is even, four of the eight municipal and two of the four privately owned disinfection plants having expert supervision.

Operation of a purification plant by a man without technical training, however faithful and conscientious he may be, is always dangerous. The trained man can detect at once, by examination of the treated water,

whether purification is being properly carried out. Where an untrained man is in charge, imperfect purification is more likely to be detected after the damage has been done.

* * *

**Now Is the Time to Prevent
the Winter's Smallpox**

Is the smallpox epidemic over? The people and the health officials of the State of Ohio have it in their power jointly to say that the answer to this question shall be "Yes."

Vaccination and revaccination will prevent smallpox. That axiom holds within its six words the solution of the smallpox problem. If it is efficiently put into practice, instead of being held very largely as a mere piece of theoretical knowledge, this winter will see no repetition of the conditions which soiled Ohio's health record last winter.

The past few months' case reports show the disease to be at a low ebb, as is usually the case in summer. The season is now here when smallpox prevalence normally rises. Shall it reach this year a peak like that which it attained last year?

Vaccinate Ohio thoroughly and there will be no such peak. Fail to vaccinate, and the residue of cases now remaining will prove the starting point of another outbreak which will cost the State heavily in lives and in industrial efficiency.

Employers should require their workers to be vaccinated. Schools should require their pupils to be vaccinated. Health officials should bring this duty to the attention of school authorities and employers, and should take steps to educate the general public in the importance of vaccination.

* * *

**Keep Your Address Up
to Date, Mr. Soldier**

There are on the mailing list of the OHIO PUBLIC HEALTH JOURNAL numerous physicians and former health officers who are now in the military service and wish to keep in touch with public health developments in Ohio while they are away. The State Department of Health is glad to send the JOURNAL to these men, but wishes to call attention to the necessity for informing the Department as early as possible of their changes of address.

Army men move frequently, and if the Department is not kept in touch with their changes it is impossible to be sure that the JOURNAL will reach them regularly.

When you receive orders to move, send a notice to the Department at once, giving both your old and your new address.

**Three More Members
Enter War Service**

The most recent contributions of the State Department of Health to war service are these members of the staff: Dr. R. P. Albaugh, director of the Division of Industrial Hygiene; Miss Sara Kerr, statistician in the Division of Communicable Diseases, and E. G. Will, assistant chemist in the Division of Laboratories.

Dr. Albaugh has taken up work with the United States Public Health Service as director of an industrial hygiene field unit, having charge of health work in a group of manufacturing plants producing war materials. Miss Kerr is engaged in statistical work with the American Red Cross in France. Mr. Will has received a commission as second lieutenant in the Sanitary Corps of the United States Army and has been assigned to duty at Yale University.

In adding these new names to the honor roll the Department expresses its gratification that it has been permitted to give such service as it has been able to give in the winning of the war.

Government Finances Venereal Disease Work in Ohio

FEDERAL funds amounting to \$51,832.16 have been placed at the disposal of the State of Ohio for venereal disease preventive activities in the State. This money is Ohio's share of the appropriation of \$1,000,000 recently granted by Congress to the United States Public Health Service for venereal disease work. Funds have been assigned to the states in proportion to relative populations.

The venereal disease campaign in Ohio will continue as before under the joint direction of the Public Health Service and the State Department of Health, with Dr. H. N. Cole as director of the Department's Bureau of Venereal Diseases and acting assistant surgeon in the Public Health Service. The offices of the Bureau are at Cleveland. No great changes in

program will be brought about by the new arrangements for financing the work, but extensions are now possible which could not be made before because of the lack of State funds for the campaign. Dr. J. M. Shapiro has been employed as assistant to Dr. Cole.

The budget of the Bureau of Venereal Diseases apportions ten percent of the allotment to administration (salaries and traveling expenses of officials, clerk hire and incidentals), sixty percent to treatment (salaries of physicians and nurses, clinic equipment, arsphenamine and other drugs, etc.), ten percent to repression (salaries, expenses, costs of prosecutions and investigations, etc.), twenty percent to education (printed matter, films and lectures).

LABOR TAKES STAND FOR HEALTH

The Ohio State Federation of Labor, in session at Columbus last month, adopted the following resolution:

RESOLUTION NO. 69

WHEREAS, No subject is of more general interest than the health of the people, the Ohio State Federation of Labor cannot too strongly insist upon building up every power for good health. The known experience of all laboring men has been that the burden of unfavorable conditions falls heavily on those least able to bear it. With this condition in mind, we think the time has come to take a definite stand on several questions of very general interest.

RESOLVED,

1. We favor continuous investigation, research and study of problems of industrial sanitation, and measures to eliminate, so far as possible, occupational diseases.
2. We favor measures that will protect the public from the spread of venereal diseases, including treatment of victims in such manner as to prevent the infection of other members of the community.
3. We favor health supervision of all public and private schools to the end that defects of children may be corrected if necessary at public expense, at the time when they can be corrected.
4. We favor extension of the facilities for expectant mothers, education and prenatal care for them and instruction to mothers of children not yet of school age.
5. We favor the reorganization of the local health agencies of the State so that the workers in the smaller centers of population may secure the services of health departments equal to the best of those now at work in the cities.

Unanimously adopted, Friday, October 18, 1918.

Controlling the Influenza Epidemic in Ohio

ACTIVITIES of the State Department of Health for the prevention and control of influenza in Ohio began shortly after the middle of September, before any outbreaks of the disease had been noted in the State. When influenza made its appearance during the last week in September, preparations for the expected battle were well under way, and in co-operation with local health authorities, the United States Public Health Service and the American Red Cross the preventive campaign was quickly extended.

Measures for the prevention of influenza in the State may be summarized under the following heads:

1. Provisions for reporting of cases.
2. Educational activities.
3. Regulations restricting public gatherings:
4. Extension of medical and nursing aid to stricken communities.
5. Advice to local health officials on methods of fighting the disease.
6. Official action in regard to removal of restrictions on public gatherings.

Influenza was not a reportable disease in Ohio when the epidemic made its appearance. The first official pronouncement of the Department of Health in regard to the situation, however, included a request that physicians keep local health officials informed of the appearance and progress of the disease, and that these local au-

thorities communicate such reports promptly to the State Department of Health, which would in its turn report to the United States Public Health Service. This request was made in accordance with a telegram from Surgeon General Rupert Blue of the Public Health Service, pointing out the importance of restricting influenza in order to avoid interference with war production, and requesting full information of possible outbreaks.

A short time later (on October 10), when the Public Health Council, the advisory body of the State Department of Health, met to consider means of dealing with the situation, it included in the regulations which it adopted a provision adding influenza to the list of reportable diseases. Since the spread of influenza was so rapid, a system of telegraphic reports from the cities was installed at the suggestion of the Federal health authorities. City health officers reported daily by night letter the number of influenza cases and deaths for the current day. These reports were tabulated in the State Department of Health and a summary telegraphed to Washington each morning. The statistics thus collected from the cities and those received by telegraph, telephone, mail and newspaper reports from other health districts served as a constant index to the spread of the disease in the State.

In its first circular letter to local health officials, to the reporting feature of which reference has been

made, the State Department of Health began its educational work by giving information as to the means of spread of the disease and advice as to means of avoiding and treating it. These recommendations were also given publicity through the newspapers. To supply the many calls for influenza literature which soon began to come in to the Department a mimeographed circular, giving in concise form the principal facts about the disease, was quickly issued and mailed out to applicants. The educational folder issued by the United States Public Health Service and reproduced in last month's OHIO PUBLIC HEALTH JOURNAL was also distributed in considerable quantity. Provision of educational material to the newspapers was continued, an influenza article being included in each issue of the Department's weekly News Letter, which is sent to each newspaper in the State.

The main dependence of the Department, after the immediate opening of the outbreak, from the standpoint of education, was placed in a pair of circulars entitled "Influenza: How to Avoid It—How to Care for Those Who Have It", in content these circulars were identical, but one was of a size convenient for use as a poster and the other was a pocket-size folder. One hundred and twenty-five thousand copies of the poster and 200,000 copies of the folders were issued. A supply of these circulars was sent to each health officer and public health nurse in the State, as well as to many industrial concerns and private individuals who requested them. Each newspaper received a copy, with a request that the material be given such use as possible, and a most

commendable response was made to this request, several papers going so far as to reproduce the poster in large display type and in practically its original size.

The Public Health Service, the Red Cross and other agencies distributed educational matter in the State, both through the newspapers and direct to the public.

Upon the advice of the State Department of Health that the best means of preventing the spread of influenza was to restrict public gatherings so far as possible, many local health departments in whose communities the earliest outbreaks occurred, adopted regulations closing schools, churches, theaters and other places of public assemblage. That there was, however, considerable uncertainty and difference of opinion in regard to the circumstances under which such orders should be adopted and the form which the orders should take, was evident in the many inquiries which came to the Department, and especially in the views which were voiced by health officers of the cities and the larger villages of the State at the conference of such officials held at the Columbus public library October 10, under the auspices of the Department. The demand was general that the State assume responsibility for stopping gatherings and prescribe a uniform course to be followed in all communities.

The Public Health Council considered a general closing order, applying immediately to all parts of the State, to be inadvisable, believing that each local situation could best be met by action suited to the locality's peculiar needs. Accordingly its action upon the question took the form of a set of "Instructions to Local Health Officers for

the Prevention and Control of Influenza." As restrictions upon crowds, these instructions directed that when an outbreak of influenza occurred in a community the local health authority should immediately close moving picture shows, theaters, schools, churches, lodges and other places of public assemblage, and should prohibit congregating or loitering in saloons, stores, pool or billiard rooms and other places. Public funerals, it was directed, should be prohibited during the presence of influenza, and street cars, factories, offices and other places which must be occupied should be as well ventilated as possible. All local health authorities were directed to enact regulations carrying out these instructions immediately, to be put into effect as soon as influenza should appear. In pursuance of these instructions, local regulations differing in details but tending in general to stop all unnecessary indoor public gatherings and to lessen the danger in all cases of necessary assemblage were quickly adopted throughout the State. The most important points of variation in these closing orders were in the restrictions placed upon saloons, confectioneries and similar places, some communities closing them entirely, others limiting the hours at which they were permitted to remain open and still others permitting them to remain open but taking steps to prevent overcrowding and loitering.

It quickly became evident in the development of the influenza epidemic that the medical facilities of many small communities would be overtaxed by the situation. Offers of assistance were received from the Public Health Service and the Red Cross, which expressed their

willingness to supply physicians, nurses and medical supplies, so far as possible with the resources at their command, upon request of the State Department of Health. At first requests for physicians were transmitted to the Public Health Service at Washington and physicians detailed from that office. This proved to be too cumbersome a procedure, however, so a change was made whereby the State Department of Health was empowered to employ physicians as needed, to be placed upon the Government payroll. Soon after this temporary arrangement was made, the Public Health Service assigned an officer to the Department for permanent duty as director of the Service's field work during the period of the emergency. The lists of the Volunteer Medical Service Corps were used in assigning physicians to duty, the ease with which men were obtained being a striking proof of the value of that organization.

The Lake Division of the American Red Cross established an emergency bureau in the Department office, to handle calls for nurses and emergency equipment. The prevailing shortage of nurses made it much more difficult to supply women for this service than it was to supply physicians, but no effort was spared to find nurses in response to the urgent calls which came in.

That many lives were saved by these arrangements for provision of doctors and nurses can not be doubted. In many communities physicians were among the first to fall ill and in several were among the first to die. This circumstance, together with the previously existing shortage of doctors due to the entry of so many of the profession

into the military service, created many most serious situations which were relieved only by the importation of medical aid from outside. In many small communities, especially in mining districts where living conditions facilitated the spread of the disease, whole families and neighborhoods fell victims and patients would have been without proper care or food had not nurses hastily been sent in. Several of the physicians and nurses assigned to duty contracted influenza themselves, exhaustion from the rush of work which they were forced to perform making them easy victims.

Aside from the question of direct action by the State Department of Health to check the spread of influenza, much attention was given to advising local health officials as to courses of procedure. A tremendous amount of business was conducted, by long distance telephone, by telegraph, by letter and by personal interview with health officials who came to Columbus to consult the Department. Representatives of the Department visited communities where the attacks appeared most serious and aided local officials in organizing their forces for fighting the epidemic. At East Palestine, which perhaps suffered as seriously as any other community in the State, a leading business man of the town was put in charge of the health department at the instance of the State Department of Health, local physicians were assigned to districts and in general more efficient methods of control were instituted. Mining villages in Guernsey County were also among the storm centers to which members of the Department staff were sent. Attempts of com-

munities to quarantine without State authority against neighboring places with serious outbreaks proved troublesome but such difficulties were ironed out as rapidly as possible. An interstate quarantine which Bridgeport and Martins Ferry attempted to enforce against Wheeling, W. Va., was abandoned after extended discussion between the Department, the Public Health Service and the officials of the interested cities. The village of Antwerp reported "a peculiar form of influenza, with an eruption in the palms of the hands and on the soles of the feet"; as local officials and physicians refused to accept a long-distance diagnosis of smallpox, it was necessary for the Department's epidemiologist to visit the village and confirm this diagnosis.

By the first of November requests for authority to remove restrictions on gatherings were pouring into the Department. The original instructions to the local health officials had provided that local regulations adopted in accordance with the instructions should continue in force as long as the emergency should continue. As the outbreaks began to wane in many localities, a demand for reopening of schools, churches, theaters, etc., soon developed. The State Department of Health followed the policy of discouraging such requests, all of which appeared premature. As the general situation in the State began to improve, however, it was felt that local restrictions could in some instances safely be lifted, but it was also evident that no relaxing of vigilance in any community should be authorized except after careful study of the local situation made it clear that such action would be

proper. As the Department did not have at its disposal a force adequate to make the necessary investigations of local conditions, and as no general order could justly or safely be made to apply to the entire State, the only course possible was to leave the matter of relaxing restrictions to local authorities. Action to this effect was taken by the Public Health Council October 31, in the following memorandum, which was immediately forwarded to all local health departments of the State:

The epidemic influenza situation in Ohio is improving and in the opinion of the State Department of Health, we may soon reasonably expect to reach practically normal conditions for the State at large. In certain parts of the State, notably in the mining districts where severe epidemic conditions have arisen, normal conditions cannot be expected to be reached until later.

Health authorities and the public should bear in mind that the quarantine restrictions, as advised by the State Department of Health, had for their purpose limiting to the greatest extent practicable the assemblage of people in such places as contribute to the spread of such diseases as epidemic influenza, and this thought must be kept in mind by health officials in the removal of quarantine restrictions.

Lifting of quarantine restrictions due to epidemic influenza will be left to the judgment of local health officials, and they assume responsibility for the action taken. For the guidance of local health officials, the State Department of Health advises that when there has been a marked decline in the occurrence of new cases, although some new cases are still occurring, restrictions may be removed in such places where sanitary conditions are maintained or can be provided and maintained.

The Department in sending out this memorandum offered to advise local health officers who were in

doubt as to what course should be pursued. Many requests for such advice were received, and in general the advice was, "Be cautious." Health officers were advised against undue haste and were warned that premature opening of places of public assemblage might permit a reappearance of the epidemic and undo much of the good which had been accomplished by the closing orders. They were urged to have pupils returning to school carefully examined by teachers and to have all sick children or children in whose homes sickness existed excluded at once.

In several communities, health authorities yielded too soon to popular demands for rescinding of closing orders, and recurrent epidemics resulted. The disease being reintroduced by visitors from nearby rural districts where it was still prevalent.

This article is prepared too early to permit of any statement of the ravages of influenza in Ohio. The epidemic is still in progress, although past the crest, and new cases and deaths are occurring daily. It may be very conservatively estimated that there have been close to six hundred thousand cases and twelve thousand deaths* in Ohio. The percent of fatalities appears not to have been as high in Ohio as in the East and in the military camps, which were invaded by the disease in its earlier, more virulent stage. It is hoped that by the time the next issue of the OHIO PUBLIC HEALTH JOURNAL goes to press more definite statistics may be presented.

* Reports to the State Bureau of Vital Statistics for the month of October alone, with one-fourth of the State, including Dayton, Akron and Wilbur Wright Field, unreported, totaled 7,166 deaths from influenza and pneumonia.

Experiments in Air-Conditioning the Home

**Abstract of a Paper by Emery R. Hayhurst, Ph. D., M. D., Consultant,
Division of Industrial Hygiene, Ohio State
Department of Health.**

The Problem.

The specific problem whose solution was attempted in the experiments to be described was that of determining whether the average sized residence could be air-conditioned, especially in regard to maintaining a proper humidity (forty percent to fifty percent), comfortable temperature and healthful atmosphere during the closed-up season of the year and in a manner to be practical and feasible for the small householder.

The Place.

The experimenter used his own residence, the south half of a brick "double" house, facing west, located in Columbus, Ohio, toward the outskirts of the northern part of the city and on an elevation about as high as any in the city limits,—estimated at 100 feet higher than the central portion of the city. A solid brick wall separated the experimenter's portion of the building from the other portion, which was also occupied as a residence.

The building was covered with the usual type of slate roof. The basement was built of stone and cement, with a concrete floor four feet below the ground level. It was separated by solid masonry from its neighbor and all in one space. The basement was capable of maintaining fairly fixed air con-

ditions, therefore acting as a good insulation to the base of the building.

The first floor consisted of three rooms in linear order from front to rear, space being taken off of the center rooms of the building on each floor for the halls and stairways. A rather massive type of brick front porch, unenclosed, joined directly under one roof to the neighbor's porch on the north side, and tended somewhat to temper weather conditions. In addition, a small unenclosed rear porch protected the kitchen entrance to some extent. Practically complete insulation was provided on the entire north side by the other half of the building, and a large frame residence from five to ten feet distant protected the south side.

The second floor had much the same arrangement as the first, consisting of three rooms in linear order with hall, stairway and bathroom located on inner side of building.

A large attic, unfinished, except that it was tightly floored over two-thirds of its extent, acted as an insulator to the top of the building.

The total cubic space included in the experimental rooms (parlor, dining-room and kitchen on the first floor, and study and playroom on the second floor), comprised 7,569 cubic feet. Deducting space occupied with furniture, fire-

place and chimney extensions, etc., approximately 7,000 cubic feet was the maximum cubic space directly concerned in the experiments.

Hence, the abode consisted of an ordinary sized residence place (one half of a brick "double"), located in a city residence district, rather closely built up and at a good relative elevation.

The Time of Year.

The experiments were conducted between January 8 and February 17, 1918, which included the continuous extent of severe weather of a rigorous winter. Actual determinations began on January 10 and continued daily with certain exceptions through February 7, when a warmer spell prevailed for about a week, final determinations being completed on February 17 when another cold spell was at hand.

Factors of Influence.

1. *Protection or General Insulation of the House.*—Because of the construction and situation of the building in relation to neighboring structures, it may be stated that it was, perhaps, a little better protected from weather conditions than the usual residence, although the elevation of this part of the city permitted probably fuller exposure to weather conditions than is ordinarily the case.

2. *Special Insulation.*—There were no storm-windows nor storm-doors. However, the looser window sashes and the exterior doors were well weather-stripped. Walls and ceilings were lathed (except on both outer walls), plastered and papered. Air filtration leaks and losses of heat by conduction through these were, therefore, to be considered controlled in a fairly

good manner. (Note, however, the chimney openings of three grates and kitchen.) Hence the brick construction with entire north wall free from openings (with the opposing half of building occupied), the tight basement and large, although unfinished, attic produced, withal, an insulation fully in keeping with, but no better than, the average residence. The flooring on the first floor was double, the upper layer being seven-eighths inch oak, on the second floor single, pine, well varnished.

3. *Rooms Used in Experiments.*—Only the three first floor rooms, and the front room and small rear room on the second floor were included in the experiments, since these were the only rooms where it was attempted to maintain a steady comfortable temperature. A small bathroom on the second floor was omitted as well as a bedroom—the latter unheated. All halls and stairways were omitted. When the furnace was going, the general temperature in the basement ranged from 40° to 60° F. A gas-burner under a non-insulated hot-water tank was going continuously in the basement. This, when the furnace was not in operation, was found sufficient to keep the basement temperature up to at least 32° F. even on the coldest and windiest days.

4. *Heating Methods and Appliances.*—Coal shortage rendered it possible to continue the experiments only the length of time indicated (January 10 to February 17). The furnace, which burned coal, was placed in the center of the basement and had hot-air ducts with fairly good upward slope. It was, by experience, a fairly good heater and in good condition. During the course of

the experiments the outdoor cold-air duct was closed and only the basement intake was used. However, considerable inleakage of outdoor air occurred here, as is usual in the ordinary type of damper control of such ducts. The house circulation, therefore, was (a) from the basement into (b) the furnace jacket, then (c) through the various hot-air ducts and registers to (d) the rooms above, with whatever returns there were through (e) door-leaks and leakages about gas pipe openings, etc. passing vertically through the floors. There were no return ducts or registers either between the second and first floors or between the first floor and basement. However, the indoor filtration leaks were of some importance in creating a circulation and recirculation of air between floors.

Gas-grates were present in the front room and middle room on the first floor and in the front room on the second floor, and were used frequently. All were flue-ventilated (without dampers) to the exterior by chimneys. The kitchen was provided with a gas-stove which was also used considerably as a heating unit. This stove was also flue-vented, without damper, by a 4-inch pipe to a chimney of good draft. The study was provided with a portable gas-stove which was used fairly often in addition to furnace supply and the gas-grate in this room. The playroom was provided with an overhead gas-plate-heater of the yellow flame, complete combustion type, which was also used fairly often. During the experiments, all doors to other rooms, halls and to the exterior were kept closed with the exception of the necessary moments of ingress and egress.

5. *The Number of Occupants* is a feature of some importance in the matter of both heat and humidity production, particularly when several may be gathered in one room for some period of time. Persons in the household consisted of two adults and two small children. Rarely were these present at one time in any one room.

6. *"Primary Sense Impression"* was carefully noted as an important index to the general ventilation of each room. It was always determined immediately upon entering a room.

7. General *"Room Comfort"* in the matter of temperature or air movements after the experimenter or others had been present for half an hour or more, was also noted with each determination.

8. A set of reliable *Thermometers* (eight in number) were hung in the various rooms on side walls farthest from heating units at a height of about five feet from the floor. All of these thermometers were calibrated against the dry-bulb thermometer used on the sling psychrometer, the calibrations being made at different degrees of temperature in approximately 10° intervals from 50° to 100° F.

9. *Psychrometric Readings.*—A pocket-type sling psychrometer of first class quality and accuracy was used. Readings were made at about the center of each room and at the same place always. The psychrometer was whirled for a minute or two until both the dry-bulb and wet-bulb readings were constant, then both were immediately read. Distilled water, which stood in covered glass tumblers in each room, in order to insure "room temperature" of the water used, was used for moistening the wet bulb. Relative hu-

midities were determined by consulting a psychrometric table in the usual manner.

10. As each indoor psychrometric reading was made, the *Outdoor Temperature*, as indicated by a standardized thermometer hung on the back porch (building wall) was also read.

11. *Official Weather Conditions*.—At the completion of the series of experiments, in response to a request made of the Director of the local Columbus Weather Bureau, the experimenter was supplied with a report of the weather conditions in regard to (a) temperature, (b) relative humidity, (c) wind velocity and (d) wind direction for each of the hours corresponding to the readings made in the home experiments. Only occasionally did the official records as to temperature vary more than two or three degrees from those noted by the back-porch thermometer, in which cases official records were invariably more extreme than those given by the experimenter's thermometer (which was therefore on the safe side). The experimenter did not attempt any psychrometric readings out-of-doors.

12. *Temporary Disturbing Factors* consisted principally of laundry work, weekly, in the basement where an additional gas-plate heater, under a clothes boiler, and the escape of some steam and moisture from clothing hung up to dry, played a certain small part in improving humidity conditions. In a lesser way, some types of cooking in the kitchen produced some humidity. As, however, but few quarts of water at the most were evaporated by these means,

such influences were not of much importance.

13. To increase *Air Movement* an eight-inch electric fan, driven at the medium of its three available speeds, was placed in the basement intake to the furnace and kept running for periods of from two to six hours previous to making readings. As noted by the rush of air out of the registers, this very materially improved the circulation of the air throughout the house. No attempts were made to estimate air velocity, air displacement or air direction in various rooms.—the variations in these factors being, of course, great, but these factors no different than in all inhabited quarters, where they are necessarily controlled sufficiently to insure more or less comfort.

14. A *Humidifying Apparatus* was installed in an opening near the top of the furnace-housing (in the slanting portion) so that the water spray continually played on top of the dome of the firebox within. This device works on the atomizer principle, although in order to get sufficient water into the air with the city water pressure available (14 to 25 pounds), it was often necessary to have the particles of rather larger size, on the average, than could be called "fog".* Except for certain experimental purposes, the device was kept going for at least a half-day period before readings were made in the rooms above and on some runs was in continuous operation for 48 hours at a time. The amount of water supplied by the device was within easy control of the experimenter. In the early experiments it was found that not

*So far as could be seen, this proved no detriment provided evaporation took place, which in turn depended mainly upon the heat in the furnace.

enough water was being used and hence humidification effects were only slight or nil.

15. The *Drying Surfaces* of the house were those ordinarily present, such as rugs, varnished furniture, clothing, wall paper and varnished woodwork—all of which, as it is well-known, have a most remarkable capacity for absorbing moisture, at least in the first few days of artificial humidification attempts. When all of these have reached a condition of moisture saturation in general keeping with that of the air, these factors practically cease to be of importance as atmospheric dehydrating agents.

16. Auxiliary heating by *Natural Gas* appliances was used quite extensively because of the severity of the weather and the shortage of coal, and it early became apparent that the burning of natural gas in a room, in itself, had a marked influence on humidity relations, its use being accompanied by a concurrent rise, invariably, in the humidity readings. Therefore, so far as the efficiency of the humidifying device was concerned, only such readings as were made when a minimum amount of, or no, gas-heating accompanied were taken.

Summary of Devices Used.

It will be seen that the total number of devices used in these air-conditioning experiments in the abode in question (in addition to the building construction with the amounts of insulation and air leakage indicated) were (1) an ordinary, hot-air furnace, coal heated; (2) gas-grates, gas-stoves, and one overhead gas-heating plate—all burning natural gas; (3) standardized thermometers, one

hung in each room; (4) an eight-inch ordinary electric fan placed in the basement opening of the cool-air inlet at the side of the base of the furnace; (5) a humidifying apparatus connected to the water supply; (6) a pan to catch the overflow from the humidifying apparatus; (7) the city water supply, which ranged between 14 and 25 pounds' pressure, as gauged in the basement, and (8) a pocket sling psychrometer with accompanying psychrometric chart and some distilled water (placed in covered tumblers in each room for moistening the wet-bulb thermometer). Other essentials in conducting the experiments were observations as to weather conditions, including official local reports corresponding to the hours when the home readings were made, notations as to the number of persons present, and the presence or absence of temporary disturbing factors.

Summary of Experimental Findings.

Tables showing the results of the experiments are omitted because of lack of space, but the following summaries give the essential facts of each table:

A. EXPERIMENTS IN ROOMS HEATED BY DIRECT GAS-HEATING APPLIANCES (GRATES, STOVES AND PLATES).

In 24 experimental readings made in "comfortable living rooms", the experiments made on 13 different days (between January 10 and February 17) with outdoor temperature ranging from 0° to 38° F. and outdoor relative humidities ranging from 63 per cent to 91 per cent and wind velocities from four to twenty-six miles per hour, it was found that the *relative humidities* within the rooms ranged from 37 per cent to 68 per cent (all but four scattered readings falling between 40 per cent and 55 per cent. While this does not constitute an ideal condition (60 per cent relative humid-

ity), it conforms to the conditions which are usually laid down as practical of obtainment. It would, therefore, seem that no artificial humidification is needed in rooms thus heated (direct heating by grates, stoves and heating plates burning natural gas in the air of the rooms).

B. EXPERIMENTS WITH HOT-AIR FURNACE.

In 10 experimental readings made in "comfortable living rooms" (as regards temperature), made on 7 different days (between January 4 and February 4) in which heating was by the ordinary hot-air furnace, with outdoor temperature ranging from -6° to 16° F., outdoor relative humidities from 63 percent to 87 percent and wind velocities from two to thirty-two miles per hour, it was found that the indoor *relative humidities* ranged between 15 percent and 50 percent (all but two falling between 15 percent and 38 percent). Hence these experiments bear out the statements made by others that the heating of premises by such indirect methods as the hot-air furnace results in great aridity and shows the necessity for providing for humidification of the heated air.

C. EXPERIMENTS WITH COOL ROOMS ($59\frac{1}{4}^{\circ}$ to 35° F.)

In 15 experimental readings made on 11 different days in rooms whose temperatures ranged between the limits stated and which were miscellaneous heated (hot-air furnace and gas appliances) with outdoor temperatures ranging from -5° to 30° F., outdoor relative humidities ranging between 56 percent and 95 percent and wind velocities from four to forty miles per hour, the indoor *relative humidities* ranged between 30 percent and 64 percent, nine falling between 44 percent and 64 percent. These experiments simply show that as temperatures decrease below the point of comfort in living rooms there is some compensation in the fact that the *relative humidity* increases to an amount which may be equivalent to the ideal (60 per cent). The cold, damp atmosphere resulting, however, is not to be advocated.

D. EXPERIMENTS IN ARTIFICIAL HUMIDIFICATION USING HOT-AIR FURNACE.

In 28 experimental readings made in "comfortable living rooms", the experiments made on 10 different days (be-

tween January 13 and February 5) with outdoor temperatures ranging from -2° to 24° F. and outdoor relative humidities ranging from 56 percent to 91 percent and wind velocities from three to twenty-nine miles per hour, it was found that the *relative humidities* within the rooms ranged from 29 per cent to 58 per cent (all but seven scattered readings—the lowest of these 29 percent—falling between 38 percent and 58 percent). This is, for practical purposes, the normal condition desired. This experiment, therefore, shows that it is practical, with only the outlay described, to humidify artificially the average size and type of residence and include proper humidity as an element in the "comfortable living rooms".

E. EXPERIMENTS IN ARTIFICIAL HUMIDIFICATION WHERE BOTH HOT-AIR FURNACE AND DIRECT HEATING GAS APPLIANCES WERE USED.

It is thought advisable to include the four readings which come under this head, as it was sometimes found necessary to augment the heat coming from the furnace by the gas-grates or gas-stoves available. This was usually due to the fact that the furnace had been allowed to cool down inadvertently. The four experimental readings were made in "comfortable living rooms", on four different days (between January 13 and February 2), with outdoor temperatures ranging from 14° to 22° F., with outdoor relative humidities ranging from 66 percent to 90 percent and wind velocities from 10 to 13 miles per hour. It was found that the *relative humidities* within the rooms ranged from 41 percent to 46 percent—the "normal" condition. These readings serve to show again how readily the burning of natural gas in the atmosphere of the room increases or maintains an atmospheric humidity. The findings are in line with those obtained in the A group of experiments.

Observations and Deductions.

I. The "comfortable living room" atmosphere may be defined as one in which there is (1) a barely perceptible circulation of the air, yet without draft; (2) temperature not depressingly high nor uncomfortably low with heat more or less evenly diffused throughout

the rooms; (3) a degree of humidity which is neither high enough to be depressing nor low (dry) enough to be irritating, and (4) the absence of obnoxious gases, as those escaping from stoves or grates and, obviously, dust, smoke or disagreeable odors. We may standardize the principal items in the above, and thus be more certain of a "healthful" as well as a "comfortable" atmosphere: The air should move at a velocity of about one foot per second; its movement should be varied in direction; and it need not be over 68° F. in temperature, provided the degree of saturation with water vapor amounts to about 40 to 50 percent.

2. In air-conditioning buildings such as residences the chief problems to be considered and controlled are as follows:

(1) Movement of the mass of air to overcome stagnation and stratification (indirect heating, as by the hot-air furnace, easily accomplishes this while great improvement can be observed by the added use of the electric fan).

(2) Prevention or control of heat loss from the building through the two chief sources: (a) direct filtration of heated air outward and ingress of cold air into the building (these air changes take place rapidly about doors, windows, baseboards, floors, and especially chimney flue openings) and (b) direct conduction of heat through walls, window panes and floors (these are usually sufficiently insulated against by proper building construction, which includes intervening "dead" air spaces).

(3) Loss of water vapor which may have been added to the air for bringing up the humidity requirements.

It will be seen, therefore, that the question reduces itself practically to one of heat and humidity control, part of which is accomplished by correct building construction and the balance of which may be secured by the usual

type of hot-air furnace and a humidifying device.

3. Unless double windows are used and outer walls are efficiently insulated, there will be an accumulation of moisture on the room-side of these otherwise cold surfaces. Surfaces of the interior of rooms must approach in temperature that of the room atmosphere or moisture deposits may occur. In the residence described, window panes, only, became steamed or frosted. Unquestionably, double windows would have avoided this. However, there is no evidence that such condensation upon windows or walls become a hazard to the health of occupants.

4. It was found that a small electric fan turned on for an hour or so three times a day was sufficient to "get the heat out of the furnace", and along with it any added humidity.

5. When outside temperatures mount above the freezing point (32° F.), at least in the locality in which these experiments were made, it does not appear that artificial humidification of residential atmosphere is necessary. This means, therefore, that, on the whole, the season making such humidification desirable in this part of the country is not only briefer than is commonly supposed, but that during the cold season many days occur when the outside temperature is above the freezing point. With the persistence of outside temperature below the freezing point, indirect heating methods, such as the hot-air furnace, produce an excessively drying tendency, or "dryingness" of the air which should be corrected, both on account of the damage to fur-

niture and decorations as well as for health reasons.

6. Heating of rooms by naked (natural) gas flames (grates, stoves, etc.) results in an amount of atmospheric humidity which is apparently sufficient (forty percent to sixty percent saturation). It was not determined whether this increased humidity comes from the oxidation of hydrogen in the gas or whether it is any more than would result from the presence of any form of naked fire in the room.

7. Very few precision instruments are needed to measure the quality of a healthful atmosphere. Some of these the householder may do away with and rely upon "primary sense impression" and "comfortable room temperature" as guides. No doubt a little increased watchfulness, or increase in the acuity of the senses, is necessary and may be cultivated.

8. The effectiveness of any humidifying device is a very relative matter. Much depends upon the control of the heat-loss and moisture-loss through filtration leaks, direct conduction and evaporation. It is conceivable that in quarters insulated against such losses, any humidifying device, in time, would succeed in completely saturating the atmosphere with moisture. Under these conditions, for example, the moisture which a mouse exhales with each breath would in time humidify to saturation a large auditorium. Hence the question of the efficacy of humidifying devices appears to be: "What will supply enough moisture in a few hours' time to bring about a relative humidity of from forty percent to sixty percent in spite of the chances for losses which exist in the ordinary place

of residence?" As the experimenter's observations, which correspond with those of others, are to the effect that it requires from a few to twenty or more gallons of water per day (depending upon the temperature of the air to be heated and its rate of escape from the building) to get enough water vapor into the air, it is obvious that some continuously operating device connected with the water supply of the building is the most practical solution. An atomizing device can be made to accomplish this.

9. Observations in a number of experiments bore out the statements of others that when *relative humidity* mounts to from 45 to 60 percent, "room comfort" becomes "O. K.," even when thermometers about the rooms record as low as 60° F. While this indicates that a lower temperature than is customary is comfortable under properly humidified air conditions, it does not mean that any less "heating", i. e., consumption of coal, is taking place, since the heat is simply being used at the furnace to evaporate the moisture which comes in contact with the heated air and the furnace box. It does, however, render the living atmosphere more healthful and comfortable since it does away with the necessity of excessive heating (70° to 80° F.) in order to feel comfortable on cold days. The cost in fuel is probably about the same.

10. The apparatus needed to bring about "proper air conditions" by the householder is (1) a hot-air furnace of ordinary type and an arrangement for air circulation in the rooms and back to the furnace (this return being accom-

plished either by registers between floors or by loose door and floor constructions, or by leaving stairway doors ajar); (2) a humidifying device, costing about twenty-five dollars, with from three dollars to five dollars additional cost for its installation, the same to be connected to the hot-air furnace, (3) a small portable electric fan, costing about ten dollars—the same one used in the summer season for cooling and ventilation; (4) a couple of thermometers

costing about one dollar each, and (5) a hygrometer or psychrometer, costing from four to ten dollars. The cost of the amount of water used is insignificant, while the cost of electricity amounts to a few cents a day at the most (the use of the fan for four to six hours). The time necessary for regulating the humidifier and the fan should be made to correspond with that of tending to the furnace, at which place all three are under control.

NO CHRISTMAS SEAL CAMPAIGN THIS YEAR; GENERAL RED CROSS FUNDS SUPPORT TUBERCULOSIS WORK.

No Red Cross Christmas Seal campaign will be held this year. In line with the request of President Wilson and the Council of National Defense that financial campaigns be reduced to the smallest possible number, the National Tuberculosis Association and the American Red Cross have joined hands in a membership campaign for the Red Cross, to be known as the "Christmas Roll Call". Each member secured in the Christmas Roll Call will be awarded ten Red Cross seals and be given anti-tuberculosis literature.

To provide for the development of the anti-tuberculosis campaign without abatement, the War Council of the American Red Cross has appropriated to the National Tuberculosis Association the sum of \$2,500,000 to finance the tuberculosis work of the country. This money will be distributed by the National Association to the various state associations and through them to their respective local societies and committees. This arrangement insures to each state and local association, which last year derived an income from

the sale of Red Cross Seals, an amount equal to the gross amount realized from the 1917 seal sale.

The plan of campaign as outlined contemplates close co-operation between anti-tuberculosis agencies and the Red Cross in an effort to make the Christmas Roll Call universally successful. The arrangement is distinctly a war measure and is not to be understood at this time in any way as a permanent program.

The controversy between medicine and morals is not really controversial if we look at it squarely. It is simply a question of utilizing a new type of public health machinery. Instead of using the sanitary engineer to drain a swamp as we do in malaria, we have to use the lawyer and the social worker in controlling liquor and prostitution and other evils. The analogy is scientific enough and the public is beginning to see it.—Major William F. Snow, in *American Journal of Public Health*, Vol. VIII, No. 9 (September, 1918).

The Bacteriology of the Pneumonias

By R. V. Story, Bacteriologist, Division of Laboratories, Ohio State Department of Health.

THE organisms most commonly met with in acute inflammation of the lungs are the pneumococcus and streptococcus. Other organisms occasionally encountered are the bacillus influenzae, Friedlander's bacillus, Staphylococcus aureus and Staphylococcus albus. Cases of mixed infection often occur with a combination of any of these, a mixed infection with pneumococcus and streptococcus being quite common.

The etiological agent concerned in the majority of cases of acute lobar pneumonia is the pneumococcus. This organism was first described independently by Pasteur and Steinberg, and later in 1884 the investigation of Frankel and Weichselbaum established the causal relationship of the pneumococcus to pneumonia.

Morphologically the pneumococcus is a small oval shaped coccus usually occurring in pairs—whence the synonym "diplococcus lanceolatus." Variations in size and form often occur, however, especially in culture media. The frequent formation of short chains produces a very striking resemblance to streptococcus, from which it is often distinguished with difficulty. Pneumococcus, however, possesses the property of undergoing solution in bile or its salts. Bile solubility is now recognized as a distinctive biological character of pneumococcus which serves to differentiate it from streptococci and closely allied

organisms. Pneumococcus stains readily with the aniline dyes and by Gram's method retains the stain. In sputum, blood and exudates, the organism is surrounded by an envelope called a capsule which can be demonstrated by appropriate staining methods. In cultures grown outside the body the capsule has a tendency to disappear and cannot be demonstrated except in certain strains and under certain conditions.

Four Types of Pneumococci.

It has been known for some time that all races of pneumococci are not identical, which fact has formerly been the cause of much disappointment in the treatment of pneumonia by serum therapy. Through the researches of Avery, Cole, Chickering and Dochez, at the Rockefeller Institute, it has been shown that the pneumococci fall into four groups, designated as Types I, II, III and IV, each possessing common immunologic characters. Types I, II and IV are indistinguishable from each other morphologically and are only separated by serological reactions.

Type III consists of pneumococcus mucosus. It is somewhat larger and rounder than the others, possesses a large distinct capsule, which usually retains the pink counter stain with Gram's method. Colonies of Type III on blood media are moist, mucoid and confluent, in contrast to the distinct,

finely granular, checker-like topography of the other types. This organism closely resembles streptococcus mucosus. The latter, however, is not bile soluble, has a greater tendency to produce hemolysis in blood agar, is not so pathogenic for mice and does not react specifically with Type III serum.

Type IV does not represent a distinct type but is a collection of smaller groups, the members of which possess certain characteristic serological properties.

Frequency of Four Types.

The incidence of these various types of pneumococci has been studied by numerous investigators as a practical guide to serum therapy. In a study of 454 cases of lobar pneumonia at the hospital of the Rockefeller Institute the following results were obtained:

Type	Incidence (per cent)
I	33.3
II	29.3
II atypical	4.2
III	13.
IV	20.3

From the above table it would appear that Types I and II are the most common causes of pneumococcus infection in man, giving rise to more than sixty percent of the cases of lobar pneumonia. Type III (pneumococcus mucosus) gives the lowest incidence in disease of the different types of pneumococcus. Similar studies conducted at various hospitals give results which tend to confirm these.

The large number of cases of pneumonia which have developed in army cantonments during the past year has afforded an unusual opportunity for studying the relative frequency of these types. At

Camp Pike forty-eight percent of a total certain series of pneumonias reported were due to the pneumococcus, and were classified as follows:

Type I.....	21%
Type II.....	34%
Type IV.....	45%

In this series the greatest incidence was found to be type IV. Not a single case due to type III was detected.

At Camp Dodge while clinical lobar pneumonia prevailed, the relative frequency of types was as follows:

Type I.....	22.8%
Type II.....	46.8%
Type III.....	7.6%
Type IV.....	22.8%

All of these cases were classed as lobar pneumonia, although it was admitted that not infrequently at necropsy it was found they had been dealing with broncho pneumonia. At this camp it is seen that Type II gave the highest incidence of the pneumococcus infections.

In a study of thirty-two cases of lobar pneumonia at Fort Sam. Houston, seventeen were associated with Type I pneumococcus, three with Type II, four with atypical Type II, one with Type III, six with Type IV and one with streptococcus mucosus: of these cases more than one-half were due to Type I. In contrast to these findings, a summary of 165 determinations of pneumococci made at Camp Zachary Taylor showed Type IV as the etiological agent in 56.3 percent of the cases, while Types I and II were found in 22.4 percent and 21.3 percent respectively; Type III was entirely absent.

From the above data it is evident

that Type III is only occasionally the cause of pneumonia. The frequency of the other types seems to vary in different localities and at different times. In one group of cases, Type I may show the highest incidence, whereas in another group Types II or IV may predominate.

Although very few cases of pneumonia are due to Type III pneumococcus, it gives rise to the highest mortality. Reports of bacteriological findings of the broncho pneumonia occurring as a sequel to the present epidemic of Spanish influenza show that the pneumococcus is the causative organism. At Camp Sherman Type IV has been responsible for the majority of such cases. At Camp Devens Type I occurred in a normal number of cases, or about twenty percent.

Methods of Identifying Types.

Various methods have been devised for isolating and determining these four types. The most successful and rapid method for isolating the pneumococcus has been the inoculation test upon white mice, which are highly susceptible to pneumococcus inoculations and usually succumb within five to twenty-four hours. This method, briefly, consists in injecting an emulsified kernel of the suspected sputum into the peritoneal cavity of a white mouse. The pneumococcus grows rapidly in the peritoneum of the mouse, while the majority of other organism rapidly die off, with a few exceptions, notably *B. influenzae* and Friedlander's bacillus. Pneumococcus invasion of the blood stream occurs early. As a rule there is sufficient growth in the peritoneum for type determination in six to eight hours. As soon as the mouse appears sick

a drop of peritoneal exudate is removed, by puncture with a capillary pipette, and examined to determine if there is an abundance of growth. If there is an abundant growth, of pneumococci alone, the peritoneal exudate is washed out with four to five cubic centimeters of sterile salt solution into a centrifuge tube. The washings are then centrifuged slowly to throw down the fibrin and cells and the supernatant fluid is then drawn off and centrifuged at high speed to throw down the cocci. The sediment cocci are suspended in saline. This suspension is used directly for microscopic agglutination tests, being mixed with the specific immune serum of types I, II, and III, of the optimum dilution, and incubated for one hour. If agglutination does not take place with any of these serums the pneumococci are assigned to group IV. Presence of other organisms in the peritoneal fluids often interferes with agglutination. To obviate this a precipitin test is made, which depends upon the fact that during the period of active growth of the pneumococci in the peritoneum a soluble substance is produced which gives a specific precipitin reaction with its homologous anti-pneumococcic serum. In this method the peritoneal washings are centrifuged at high speed to throw down fibrin, cells and bacteria and the clear supernatant fluid is mixed with the diluted specific anti-pneumococcic sera in equal amounts. An immediate specific reaction occurs in the tube containing homologous immune sera, the others remaining clear. The entire process of obtaining the organisms and performing the differentiation tests may be accomplished in a little more than six hours.

Owing to the difficulty of procuring white mice for inoculation purposes, a method has been devised by Avery for growing the pneumococci from sputum. This method, which has proved quite successful, consists in inoculating beef infusion broth containing one percent dextrose to which is added one cubic centimeter of sterile defibrinated blood with an emulsified kernel of the patient's sputum. This medium is particularly selective for the pneumococcus, which outgrows the usual throat organisms and gives a luxuriant growth usually in five or six hours. Agglutination reactions are carried out with a suspension of the cocci in the same manner as with the peritoneal washing of the mouse. In carrying out the precipitin test the pneumococci are dissolved with bile and the resultant solution is mixed with the specific immune sera in the proper proportions.

Not only are the pneumococci found in the sputum but they also may be obtained from blood culture. It has been stated by Fränkle that in most, if not all, cases of lobar pneumonia, at some time during the disease the pneumococci can be found. The larger percentage of blood cultures, however, has given negative findings. Where it is impossible to obtain a suitable specimen of sputum, lung puncture is occasionally resorted to and cultures made of the material obtained. In case of empyema the organisms are found in the fluid in large numbers.

Distribution of Pneumococci.

The pneumococcus is a widely distributed organism and is a common inhabitant of the healthy mucous membrane of man. Type

IV is the organism usually present in healthy persons. Types I and II are practically never found except in the environment of persons ill with the disease or carriers. Pneumatic sputum dried in the air and exposed to diffuse daylight retains its virulence for several weeks. In spray from coughing the organisms probably never survive over a few hours. In pneumonia the influence of predisposing factors is of almost supreme significance. When the resistance of the body is lowered by exposure to cold, dampness or by disease, especially measles and influenza, the pneumococci normally present in the respiratory passages may gain a foothold and cause infection. Infection is more apt to occur, however, when pneumococci from patients ill with the disease or convalescent are transferred to persons with a lowered resistance. In accordance with the biological law that the virulence of an organism is enhanced by continued passage through animals, pneumococci from a pneumonia patient are far more virulent than those that have been leading a more saprophytic existence.

Anti-Pneumococci Serum.

It has been known for some time that the serum of animals which have been immunized against pneumococci is able to protect other animals against a fatal infection. Early attempts, however, to apply the same principles to man by employing immune horse serum met with disappointing and inconclusive results. Further experiments conducted at the Rockefeller Institute have shown that anti-pneumococcal serum is protective and curative, only when the specific serum against the type of organism

causing the infection is used. It has been demonstrated that pneumococcus serum prepared by the injection of Type I pneumococcus is highly effective in the treatment of cases of pneumonia due to the same type of organism. The serum of Type II has given less favorable results and it has not yet been clearly demonstrated whether it has any curative value or not. Type III serum has given such slight protective power to laboratory animals that therapeutic application has not seemed justifiable. There are so many different types of pneumococci belonging to Group IV that the difficulty in preparing a serum against this group is obvious.

In general the sera now in use are prepared by injecting healthy horses with gradually increasing doses first of dead and then living pneumococci. When the serum of the horse has been found to possess sufficient protective power the animal is bled under strictly aseptic technic. The blood is allowed to clot and the resulting serum is stored in the refrigerator for two months. After it has been tested for sterility and toxicity it is ready for dispensing. In administering the serum the patient first must be tested for sensitiveness with horse serum. If the intradermal skin test is positive, the patient should be desensitized by injecting extremely small amounts of serum subcutaneously at one-half hour intervals, doubling the size of dose at each injection. Experience has shown that anti-pneumococcic serum, to be effective, must be given in large doses and intravenously. As a rule doses of ninety to one hundred cubic centimeters are given at eight hour intervals,

the total amount averaging about 250 cubic centimeters.

Keys in the *Journal of Medical Research* for July, 1918, reports that he has produced a powerful anti-pneumococcic serum by injecting massive doses of virulent cultures into domestic fowl intraperitoneally. He found that intravenous doses of two and one-half cubic centimeters of the immune serum, on an average of three injections, gave beneficial results. Polyvalent and univalent sera were used. In a group of patients who were inoculated the death rate was 20.8 percent while 45.3 percent of the non-inoculated die.

Serum treatment has been practiced extensively in our Army hospitals during the past year. Reports as to the results of this treatment have been made to the Surgeon General, but as yet they have not been made public. No doubt these reports will shed considerable light upon the value of serum therapy in the treatment of pneumonia.

Stewart in the *Medical Record* for August, 1918, states that, in the opinion of Army surgeons with whom he has talked, the use of polyvalent serum possessing antibodies for Types I, II, and III, serves a better purpose than the employment of Type I alone because it produces more or less immunity to reinfection.

As a measure of prophylaxis, vaccination, although it has not as yet been given a fair trial, promises to be particularly valuable. Lister, of the South Africa Institute of Medical Research, has been the first to report successful vaccination. His researches were conducted among the diamond workers at Kimberly, where pneumonia is prevalent. He reports

that three subcutaneous inoculations with triple vaccine of the three groups mainly found there prevent the occurrence of pneumonia caused by these groups but not the pneumonia due to other groups of the pneumococcus. In this country, at Camp Upton, twelve thousand soldiers were vaccinated against pneumonia, organisms of Types I, II, and III being employed. Although sufficient time has not yet elapsed to make results conclusive, it is significant to note that up to the present none of those vaccinated has contracted the disease, while it has been prevalent among the unvaccinated. Other camps have been slower in introducing this measure.

Streptococcus Pneumonia.

As a result of the study of pneumonia at our army training camps during the past winter and spring, there is a growing tendency to classify pneumonia as pneumococcus pneumonia and streptococcus pneumonia. In fact it now seems more important to ascertain whether a patient suffering from pneumonia is a victim of a streptococcus or a pneumococcic infection than it is to determine the different types of pneumococcus which may be responsible for the condition.

During early spring at several cantonments an epidemic of streptococcus pneumonia suddenly appeared, which continued with great severity and with a resultant high mortality. Physicians soon recognized that they were dealing with a type of pneumonia different, both clinically and etiologically, from that which had been endemic during the winter. Bronchopneumonia was nearly always the type. Empyema became frequent and developed early. The bacterio-

logical findings in these cases usually showed pure streptococci of the hemolytic type. At Camp Dodge, where the epidemic was unusually severe, a study of ninety-five cases revealed pure streptococci of the hemolytic variety in eighty-eight, and a mixture of streptococci and pneumococci in three. Empyema appeared in 34.8 percent of the cases during the epidemic, in contrast to eleven percent in the pneumonia previously. Although measles was common during the winter, pneumococcus as a complication was very infrequent even during the streptococcus epidemic.

On the other hand, at Camp Pike thirty-three percent of all the pneumonias up to March 22, 1918, were those that followed measles. The fatality rate from bronchopneumonia was particularly high, reaching fifty-three percent in the month of January. The high mortality during this month was due in all probability to the large number of cases of bronchopneumonia following measles. Of the total numbers of cases of pneumonia reported from this camp forty-six percent of the sputum examinations showed streptococci. Of these forty-six percent were not hemolytic while fifty-four percent were hemolytic. Of twenty-three blood cultures which were taken, six showed the hemolytic streptococcus.

With the technic in use at various hospitals it is evident that a large number of cases of pneumonia due to the streptococcus have not been detected.

At Fort Sam Houston, where exhaustive researches were conducted it was found that seventy-six percent of the swab cultures of pneumonia patients following measles showed hemolytic strepto-

coccus, while eighty-seven percent of the sputum revealed the same organisms. Examinations of both swab cultures and sputum showed that one hundred percent of the patients were infected with streptococci of the hemolytic type. An examination of the pleural exudates of forty-one lobar pneumonia cases at necropsy, showed fifty-nine percent to be pure hemolytic streptococcus, while pneumococci were found in forty-one percent of the cases. Of seven broncho pneumonia specimens eighty-six percent were streptococcus and fourteen pneumococcus. Death was classed as apparently due to hemolytic streptococcus in ninety-four percent of the total cases and the conclusion was drawn that the streptococcus is the causative organism in this complication following measles; moreover, it was the cause of death even in a large percentage of the cases of lobar pneumonia.

Dr. Rufus Cole, a member of the commission which made a study of pneumonia existing at Fort Sam Houston, is of the opinion that broncho pneumonia following measles is due to one organism, a hemolytic streptococcus and that reports of the findings of non-hemolytic strains which have been made from some camps need to be verified.

Distribution of Organism.

The hemolytic streptococcus does not appear to be such a widely distributed organism as the pneumococcus. It has been found in a small percentage of normal individuals. Swab cultures taken from the throats of healthy individuals at Fort Sam Houston showed that only six percent harbored this organism. At Camp Zachary

Taylor, on the other hand, fifteen percent of one contingent were found to be carriers of the hemolytic streptococci on arrival in camp.

While it is true that hemolytic streptococci are often found in milk, all the evidence at hand indicates that these are of a different type and are not pathogenic. For reasons at present unknown, hemolytic streptococci prefer to select a measles patient for their host. It may be that the organism of measles prepares the way for the streptococci. In any case the respiratory passages of the patient suffering from measles make a good culture medium for the organism and, the resistance of the patient having been broken down by the disease, streptococci invade the lungs and produce a severe infection. An examination of 291 swab cultures from measles cases at Fort Sam Houston showed Type III hemolysis in 104. It is significant to note that thirty-three percent of the patients giving positive findings developed strepto pneumonia. Similar results have been obtained in other camps. Patients in the same wards with streptococcus carriers soon become carriers themselves and as these organisms rapidly gain in virulence by passage from one host to another a serious epidemic is the result.

As a preventive measure all measles patients should be examined for the presence of the streptococcus hemolyticus and those found to be carriers should be rigidly isolated. Such measures have been taken in our Army hospitals. All persons coming within the immediate neighborhood of such patients should be protected by face masks. These measures

have proved highly valuable in combating serious epidemics.

Protective Serum.

Numerous attempts have been made to produce anti-serum against streptococcus infections and several such serums are being sold by commercial firms. At the present time, however, no striking results have been obtained in the majority of streptococcus infections. These unsatisfactory results have been due to the fact that there exist a great many strains of streptococci, differing from each other in their cultural reaction and immunity tests. Today streptococci are divided into two main groups, those that possess the power to lysis red blood cells, called the hemolytic group, and those that produce no hemolysis in blood, called the non-hemolytic, or sometimes streptococcus viridans. The later class is a heterogeneous group of organisms which show little relation to each other, either culturally or in their immunity reactions. On the other hand, recent researches have proved that the streptococcus hemolyticus is a more homogeneous group. Although the different members of the group show some variation in their fermentative reactions, there is little difference in their immunological reactions as indicated by the complement fixation test. Much work remains to be done, but the future looks promising for producing a satisfactory immune serum against the group, provided its members are closely enough related. At present there is also no conclusive evidence of the usefulness of vaccine therapy in streptococcus infections for the same reasons which apply to serum therapy.

At Fort Sam Houston the experiment has been carried out of

vaccinating one group of streptococcus carriers and injecting another with anti-pneumococcic serum. The report on this work has not yet been made public.

For the country doctor who has no available laboratory facilities, the determination of the causative agent of pneumonia offers serious difficulties. It is out of the question to send a specimen of sputum any distance to a laboratory because of the time consumed. It is essential that a diagnosis be made in the shortest possible time, as pneumonia is a treacherous and uncertain disease. For such cases some authorities advocate that both a polyvalent pneumococcus serum and streptococcus serum be administered at once, as such a serum has exactly the same specific action against the type of organism causing the infection as its own immune serum, only in this case a larger dose of the serum must necessarily be given. Although such a procedure may prove of great value, there is at present no conclusive evidence for its adoption.

RABIES IN ENGLAND AGAIN.

England has recently experienced cases of rabies after being entirely free from the disease for fifteen years. Cases have been reported from Devonshire and the Isle of Man. A quarantine established twenty years ago against the importation of dogs from abroad, and strictly enforced despite objections by a large part of the public, gradually reduced rabies prevalence among animals in England from 672 cases in 1895 to none in 1903 and succeeding years up to the present. The cases this year are attributed to dogs smuggled in from France by returning soldiers.

"Taking a Chance" on an Unsafe Water Supply Proves Costly

IMPERFECT disinfection of a portion of Xenia's public water supply was responsible for the typhoid fever outbreak of forty-four cases in that city during the last few days of August and the earlier half of September, according to investigations made by representatives of the State Department of Health. The fault, it was found, lay with a defective supply of bleaching powder, the substance used as a disinfecting agent.

All epidemiological evidence disclosed by the investigation pointed to the water supply as the source of infection. Cases were widely distributed over the city and city water was used at home by all but one patient, who used it only at her place of business. A study of the occupations of the patients revealed no similarity in this regard. Milk, ice cream and fresh vegetables were used in varying quantities and obtained from many sources. None of the patients had eaten any raw shellfish recently before falling ill. No public gatherings had been attended by patients recently enough to be suspected as sources of infection. Contact infection as an important cause is ruled out by the facts that only eleven patients resided in homes where other cases developed either before or after the case in question and that only two households had as many as three cases each.

The Xenia water supply is furnished by a private company. It is derived from two sources—a

system of drilled wells southwest of the city and a combined surface and ground water supply obtained from reservoirs, springs and dug wells north of the city. The surface and ground water supply was installed in 1887 and remained in use after the drilled wells were installed in 1896, because the latter source was insufficient to supply the city. Water from the drilled wells has always appeared satisfactory from a sanitary standpoint. That pumped from the station north of the city has been shown at several times to be unsatisfactory, in consequence of which a hypochlorite disinfection plant was installed in 1914. On the average two-thirds of the city's water comes from the drilled-well source and one-third from the disinfected supply, the amount pumped from the drilled wells becoming relatively smaller in dry weather. This variation makes it impossible to determine just what part of the city is being supplied from each source at a given time, but the presence of a large amount of iron in the drilled-well water makes a reasonable degree of differentiation possible.

Disinfection of the water at the north pumping station had been carefully conducted, according to the report of the Department investigators, who found that bleaching powder had been added in definite, prescribed quantities for two and one-half years. Analysis of water samples collected in the city, however, demonstrated that the water from this station was

of doubtful and unsatisfactory quality, while that from the other station was satisfactory. This led to an analysis of the bleaching powder, which was found to be of one-fifth the guaranteed strength.

"Since this substance was guaranteed to be of proper strength," says the report of the investigation, "it follows that the under-treatment of the city water was purely accidental; nevertheless, it is significant that such a possibility always exists when disinfection of a public water supply is necessary to render it safe for domestic use. In order to avoid the recurrence of a polluted water being supplied the consumers at Xenia, the water company should abandon the existing supply at the Springfield Pike station (the surface and ground water source) and procure water of satisfactory sanitary quality from another source. In the meanwhile, it is advisable that the company abandon its hypochlorite method of disinfection and employ the more dependable and up-to-date method using liquid chlorine."

NEW TREATMENT FOR EMPYEMA IS DEVISED BY ARMY SURGEONS

Means of treating empyema, the lung disease which caused many deaths in the army camps and cantonments last winter, have been devised by the army medical department. The plan followed by the army surgeons is to draw off the pus which forms in the pleural cavity by means of aspiration (a needle and suction apparatus) at frequent intervals, following this by operation after the patient has begun to improve and the exudate has become reduced in virulence.

The civilian practice in empyema has been to operate immediately after diagnosis. The type of disease prevailing in the army has been found to be widely different from that met with in civil life, and the medical officers have felt that early operation may involve great risks without compensating benefits.

Empyema was one of the complications which frequently followed measles in the army hospitals last winter. This infection attacks the membrane covering the lungs or the membranous lining of the chest, producing a fluid or pus which remains between the two membranes and, as it increases in quantity, tends to fill the pleural cavity and reduce the air space in the lungs, frequently with fatal result. The form of the disease observed in the army last year was found upon investigation to be due to the streptococcus.

GOVERNMENT ISSUES 1916 BIRTH STATISTICS.

The birth rate in the birth registration area of the United States in 1916 was 24.8 per 1,000 population, according to the Census Bureau's report for the year, just issued. The death rate in the same states was 14.7 per 1,000 population.

The birth rate was .1 below that for 1915 and the death rate was .7 higher than in 1915.

The death rate of infants under one year old was 101 per 1,000 living births in 1916, as against 100 per 1,000 living births in 1915.

The birth registration for 1916 included the six New England states, New York, Pennsylvania, Maryland, Michigan, Minnesota and the District of Columbia. Ohio has since been admitted.

WATER PURIFICATION POSITIONS ARE OPEN

Any man desiring a position as superintendent of a municipal water purification plant and competent to fill such a position should communicate with the Division of Sanitary Engineering of the State Department of Health. This Division usually has on file information regarding from two to five such vacancies in Ohio cities.

Men with either chemical or bacteriological training, or both, and with or without experience in water purification work, can be placed. The smaller cities are willing to employ men who are trained but are without experience, while in the larger places experience is ordinarily a requisite. Salaries average about \$2,000, positions in the smaller plants sometimes paying less, and those in large plants more, than this amount.

Vacancies are now more numerous than usual, because of the departure of many men for military service.

13.	Scranton, Pa.	85.9
14.	San Francisco, Calif..	79.4
15.	Minneapolis, Minn. ...	87.9
16.	Columbus, Ohio	89.0
17.	St. Louis, Mo.....	89.4
18.	New Haven, Conn.....	89.4
19.	Newark, N. J.....	89.6
20.	New York City.....	93.1
21.	New Orleans, La.....	96.6
22.	Cincinnati, Ohio	97.3
23.	Dayton, Ohio	98.4
24.	Syracuse, N. Y.....	98.9
25.	Philadelphia, Pa.	101.0
26.	Jersey City, N. J.....	102.8
27.	Boston, Mass.	104.1
28.	Washington, D. C....	105.5
29.	Cleveland, Ohio	107.0
30.	Louisville, Ky.	108.4
31.	Paterson, N. J.....	110.2
32.	Birmingham, Ala.	110.8
33.	Toledo, Ohio	111.5
34.	Pittsburg, Pa.	111.8
35.	Chicago, Ill.	111.9
36.	Detroit, Mich.	112.8
37.	Milwaukee, Wis.	113.2
38.	Buffalo, N. Y.....	113.9
39.	Grand Rapids, Mich..	115.4
40.	Baltimore, Md.	118.2
41.	Richmond, Va.	136.3
42.	Lowell, Mass.	155.8
43.	Fall River, Mass.....	163.2
44.	San Antonio, Texas...	246.0

BABY MORTALITY RATES IN AMERICAN CITIES, 1916

1.	Brookline, Mass.	32.2
2.	Waltham, Mass.	38.6
3.	Madison, Wis.	45.3
4.	Portland, Ore.	55.1
5.	Spokane, Wash.	57.7
6.	Omaha, Neb.	61.8
7.	Oakland, Calif.	65.1
8.	St. Paul, Minn.	67.8
9.	Los Angeles, Calif....	69.4
10.	Indianapolis, Ind.	86.9
11.	Rochester, N. Y.	82.9
12.	Denver, Colo.	84.3

NOTE:—The Infant Mortality Rate is the number of deaths of children under one year of age per 1,000 living births reported during the calendar year.

LEAFLET GIVES ADVICE TO REJECTED DRAFTEES.

Health advice for draft registrants rejected for military service because of physical disabilities are given in a leaflet prepared by the United States Public Health Service and issued under the joint

auspices of that Bureau and the Provost Marshal General's Office.

"It is highly desirable," says a statement from Surgeon General Rupert Blue of the Public Health Service, "that the men found to be disqualified for military service by the examining physicians of the local draft boards should receive definite instructions as to the meaning of their disabilities and that a strong appeal be made to them to correct these disabilities as far as possible. But the object of this measure is not only to reclaim men for military service or for such service as they can perform, but to lessen the burden of illness and disability among those engaged in essential industrial work. It is hoped that the instruction in this circular, which is really a primer of the physical defects of the nation, will reach far beyond the draft board and be utilized by all agencies interested in improving the public health to instruct the people with regard to their physical deficiencies and the ways and means by which they can be remedied."

According to the Public Health Service experience everywhere shows that the proportion of persons with physical impairments is considerably greater in persons between thirty and forty than in those between twenty and thirty years of age. This waning vitality at ages over thirty, so commonly accepted as inevitable, can be postponed to a large extent. In this connection, it is pointed out that sixty percent of the physical defects found in the last draft were of a preventable or curable nature.

In addition to furnishing all the

local draft boards throughout the country with a sufficient number of the circulars to supply one to each registrant rejected because of physical disability, arrangements have been made to furnish specimens of the circular to life insurance companies, fraternal organizations, labor unions, employers of labor and others who desire to reprint the circular in its present official form for wider distribution.

The Public Health Service will furnish specimens of this circular on application and urges all organizations that can reach large groups of people to reprint and distribute the circular.

BEWARE OF BUBBLERS OF INSANITARY DESIGN.

The Division of Plumbing of the State Department of Health recently issued the following "Notice to Employers and Employees in Factories, Workshops and Other Places Where Drinking Fountains Are Installed":

To assist in checking the present epidemic of influenza, extreme precaution should be exercised in the use of the drinking fountain and the use of the common drinking cup or glass should not be permitted.

Any type of fountain or bubbler which permits the lips of the person using it to come in direct contact with the nozzle furnishing the jet should have lip guards installed, as the infection which causes the disease is found in the mouth, nose, throat and lungs.

If an employee has influenza, he should not be the means of transmitting it to others through carelessness.

The improper use of the fountain or bubbler by a direct contact of the lips with metal parts of the fixture or device where same is possible, will do this, so it behooves all to use extra precaution at this time.

PUBLIC HEALTH NURSING SERVICE

Report for September, 1918

	<i>Home Visits</i>	<i>Other Visits</i>	<i>Number Patients Under Care</i>	<i>Number Nurses Employed</i>
<i>Population 100,000 and over</i>				
Cincinnati (Anti - Tuberculosis League)	1,017	....	1,405	10
Columbus (Anti - Tuberculosis League)	624	103	1,050	5
Toledo	8,021	166	4,911	19
Youngstown	1,801	4	359	9
<i>Population 25,000 to 100,000</i>				
Akron	195	2,647	1,882	23
Canton	661	....	71	4
Lima	453	25	88	2
Lorain	122	12	43	1
Springfield (City Health Department)	212	15	124	2
Zanesville (Federation of Women's Clubs)	116	12	22	1
<i>Population 8,000 to 25,000</i>				
Ashtabula	50	40	50	1
Bellefontaine	151	58	44	1
Bucyrus	120	21	22	1
Delaware	195	10	26	1
Lancaster	97	27	23	1
Mansfield .....	....	58	32	1
Marion .....	....	24	31	1
Massillon	287	46	88	2
Piqua	41	55	15	1
<i>Population 5,000 to 8,000</i>				
Ashland	85	17	15	1
Greenville	194	....	16	1
Norwalk	86	53	40	1
Ravenna	184	42	37	1
Sidney	123	71	19	1
<i>Population 2,500 to 5,000</i>				
Cuyahoga Falls	82	30	44	1
Shelby	105	9	32	1
<i>Counties</i>				
Lake	54	30	45	1
Trumbull	115	75	164	1
Total	15,191	3,650	10,698	95

The 10,698 patients under care were grouped as follows, according to the nature of their cases, with the exception of 1,922 patients, 40 of whom were "not listed" and 1,882 of whom (Akron) were listed as 567 tuberculosis patients, 25 general nursing, 209 open air school, 655 infant welfare and 426 pre-school;

Communicable Diseases —	
Tuberculosis	4,370
All others	104
Maternity —	
Prenatal	114
Postnatal	88
Infants under two years of age (except eye).....	2,701
Eye —	
Infants under two years of age.....	10
All others	14
Other Diseases —	
Medical	1,256
Surgical	60
Social Service	59
Total	8,776

DEPARTMENTAL REPORTS BY DIVISIONS

DIVISION OF COMMUNICABLE DISEASES

Reported Cases of Notifiable Diseases, Ohio, October, 1918

Prevalence.—In order of greatest reported prevalence during the month of October, the notifiable diseases list as follows, with comparative figures for September given:

Diseases.	Reported Cases	
	October	September
1. Pneumonia	1,994	213
2. Scarlet fever.....	571	367
3. Diphtheria	549	439
4. Gonorrhea	349	653
5. Tuberculosis, all forms.....	329	456
6. Typhoid fever	324	841
7. Measles	322	234
8. Whooping cough	307	495
9. Chickenpox	294	74
10. Smallpox	226	121
11. Ophthalmia Neonatorum	187	145
12. Syphilis	142	392
13. Mumps	125	145

For no other one notifiable disease was a total of 100 or more cases reported for October. The table of thirteen diseases listed in order of prevalence shows a marked increase in reported cases of acute lobar pneumonia, due in a majority of cases to influenza causes.

There were 1,994 reported cases of pneumonia for October of this year, an increase of 1,781 cases compared with September's total for pneumonia prevalence. The reports for October, 1917, show a prevalence of 170 pneumonia cases, and for October, 1916, 171 cases. This would indicate a stationary condition of pneumonia prevalence, the stability of which was destroyed by influenza causes.

Diphtheria.—For October of this year there are reported only 549 cases of diphtheria, an increase of 110 cases over September's total report for diphtheria, a decrease of 471 cases compared with 1,030 cases reported for October of last year, and a decrease of 653 cases compared with 1,204 cases reported for October, 1916. For October, 1915, there were reported 1,491 cases of diphtheria. It is probable that there will be increased prevalence of diphtheria for November and December. Schools and places of public meeting will be open and sources of contagion active. Health officers are warned of these conditions and asked to prevent this increase as far as in their power to do so.

Smallpox.—The October total for smallpox exceeds the September total by 105 cases. This increased prevalence can be expected to advance steadily during the winter months. Vaccination is a sure preventative. Light cases of smallpox, often reported as cases of chickenpox, should not be lightly considered.

Chickenpox.—October reported cases of chickenpox show an increase of 400 percent over reported cases for September.

Scarlet Fever.—A total of 571 cases of scarlet fever was reported for October, an increase of 204 cases over September's total and a decrease compared with October reports for previous years. There were reported for October, 1915, 947 cases of scarlet fever; for October, 1916, 875 cases; for October, 1917, 645 cases. This decrease is a gratifying condition to all interested in public health. Winter months are particularly favorable to this disease and only diligence and care on the part of health officials will contribute to its continued decreased prevalence.

Influenza.—The present epidemic of influenza, which is of pandemic proportions has particularly affected the relativity of the monthly report from the Division of Communicable Diseases. Reports are as yet incomplete, owing to the continued prevalence of influenza in the state and physicians being negligent in the matter of making total reports. Reports should be sent in at the earliest opportunity, by telephone, letters or card.

October Reports.—Reports for the month were noticeably late in being received. We believe that conditions will be normal in another month, at the least, and there should be no delay in submitting summary reports as well as case cards. The greatest possible promptness is necessary in this matter that the Division of Communicable Diseases may be of the highest service to the state.

TABLE II. REPORTED CASES, TEN NOTIFIABLE DISEASES, WITH
TOTAL CASE RATE PER 1,000 POPULATION, OHIO CITIES,
OCTOBER 1918.—Continued.

City.	Total Case Rate per 1,000 Pop- ulation.	Total reported Cases.	Diphtheria.	Measles.	Meningitis, Cerebrospinal.	Pneumonia, Acute Lobar.	Poliomyelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
Bellaire	1.386	22	4	1	1	5	.....	2	6	2	1	.....
Bellefontaine .....	.105	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Bellevue	4.238	26	.....	.....	.....	25	.....	.....	.....	.....	.....	1
Bowling Green.....	.561	3	1	.....	.....	.....	.....	.....	.....	.....	2	.....
Bucyrus	1.908	18	1	.....	.....	3	.....	.....	11	.....	3	.....
Cambridge .....	.284	4	1	.....	.....	.....	.....	.....	1	2	.....	.....
Canton .....	.525	35	7	6	.....	11	.....	6	.....	.....	5	.....
Chillicothe .....	.882	14	4	2	.....	.....	.....	5	.....	.....	3	.....
Cincinnati .....	.624	312	81	15	.....	52	.....	52	9	86	10	7
Circleville .....	.148	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cleveland	1.025	1,025	127	13	4	654	.....	71	33	86	20	17
Columbus .....	.432	108	32	2	1	.....	2	51	2	5	6	7
Conneaut	1.926	18	1	.....	.....	8	.....	7	.....	.....	.....	2
Coshocton	1.312	16	1	.....	.....	.....	1	.....	14	.....	.....	.....
Dayton .....	.595	85	21	.....	.....	51	.....	9	.....	4	.....	1
Defiance	1.632	12	.....	.....	.....	11	.....	.....	.....	.....	.....	.....
Delaware .....	.300	3	.....	.....	.....	1	.....	.....	.....	1	1	.....
Delphos	4.209	23	.....	4	.....	19	.....	.....	.....	.....	.....	.....
Dover .....	.131	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
East Cleveland.....	.483	7	1	.....	.....	.....	.....	1	1	.....	.....	4
East Liverpool ¹ .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Elyria	1.350	27	4	.....	.....	4	.....	1	17	.....	1	.....
Findlay	1.139	17	2	1	.....	4	.....	4	.....	3	2	1
Fostoria	1.170	13	3	1	.....	.....	.....	5	.....	3	.....	1
Fremont	1.683	17	.....	.....	.....	14	.....	.....	.....	.....	3	.....
Galion ² .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gallipolis	2.992	17	.....	.....	.....	17	.....	.....	.....	.....	.....	.....
Greenville ³ .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hamilton	2.200	100	3	.....	.....	70	.....	2	25	.....	.....	.....
Ironton	1.610	23	5	.....	.....	18	.....	.....	.....	.....	.....	.....
Jackson	1.630	10	1	.....	.....	.....	.....	7	.....	2	.....	.....
Kenton .....	.270	2	.....	.....	.....	.....	.....	.....	.....	1	1	.....
Lakewood .....	.492	12	7	.....	.....	2	.....	2	.....	.....	.....	1
Lancaster ¹ .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lima	1.440	48	8	3	.....	.....	.....	31	.....	2	4	.....
Lorain .....	.900	36	14	.....	.....	5	.....	7	3	2	.....	5
Mansfield .....	.301	7	.....	2	.....	.....	.....	1	.....	3	.....	1
Marietta ¹ .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Marion ¹ .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Martins Ferry.....	.097	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Massillon .....	.128	2	1	.....	.....	.....	.....	1	.....	.....	.....	.....
Middletown .....	.610	10	2	.....	.....	.....	.....	4	1	2	1	.....
Mt. Vernon ¹ .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nelsonville	1.510	10	5	1	.....	.....	.....	3	.....	.....	1	.....
New Philadelphia	1.520	16	.....	.....	.....	6	1	.....	.....	3	6	.....
Newark .....	.576	18	.....	.....	.....	.....	.....	13	.....	.....	5	.....
Niles .....	.110	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Norwalk	1.170	10	.....	.....	.....	10	.....	.....	.....	.....	.....	.....
Norwood	1.763	43	1	.....	.....	36	.....	2	.....	3	1	.....
Painesville ⁴ .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE II. REPORTED CASES, TEN NOTIFIABLE DISEASES, WITH TOTAL CASE RATES PER 1,000 POPULATION, OHIO CITIES, OCTOBER 1918 — Concluded.

City.	Total Case Rate per 1,000 Population.	Total reported Cases.	Diphtheria.	Measles.	Meningitis, Cerebrospinal.	Pneumonia, Acute Lobar.	Poliomyelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
Piqua	4.416	64	.....	.....	.....	58	.....	2	.....	.....	2	2
Portsmouth .....	.297	9	2	.....	.....	7	.....	2	.....	.....	.....	.....
Ravenna .....	.312	2	.....	.....	.....	.....	.....	2	.....	.....	.....	.....
St. Bernard ^a .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Marys .....	.322	2	.....	.....	.....	.....	.....	2	.....	.....	.....	.....
Salem .....	.594	6	1	.....	.....	.....	.....	1	1	1	.....	2
Sandusky .....	.294	6	1	.....	.....	.....	.....	2	.....	3	.....	.....
Sidney .....	.136	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Springfield	2.926	154	.....	124	1	11	.....	5	5	2	2	4
Steubenville .....	.525	15	9	.....	.....	.....	.....	4	.....	.....	1	1
Tiffin ¹ .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Toledo .....	.665	133	25	9	.....	18	.....	20	.....	32	11	18
Troy .....	.158	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Urbana	1.404	12	.....	.....	.....	11	.....	1	.....	.....	.....	.....
Van Wert .....	.903	7	.....	.....	.....	4	.....	3	.....	.....	.....	.....
Wapakoneta .....	.765	5	1	3	.....	.....	.....	.....	.....	.....	1	.....
Warren	1.628	22	1	.....	1	1	1	.....	3	1	7	7
Washington C. H. .....	.351	3	.....	.....	.....	.....	.....	.....	3	.....	.....	.....
Wellston .....	.145	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wellsville .....	.220	2	1	.....	.....	.....	.....	.....	1	.....	.....	.....
Wooster .....	.805	5	.....	.....	.....	1	.....	.....	2	2	.....	.....
Xenia ² .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Youngstown ¹ .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zanesville .....	.248	8	.....	.....	.....	1	.....	.....	.....	5	2	.....

¹ Barberton, East Liverpool, Lancaster, Marietta, Marion, Mt. Vernon, Tiffin and Youngstown failed to submit the regular summary report by date of going to press.

² Ashland, Galion, Greenville, Painesville, St. Bernard and Xenia reported no cases of the diseases listed.

DIVISION OF PLUMBING

Summary of Activities in October, 1918

Fifty-nine inspections were made by representatives of the Division in October. Six conferences were held, one investigation was made, three sets of plans were approved and four certificates of approval were issued.

DIVISION OF PUBLIC HEALTH EDUCATION AND TUBERCULOSIS

Summary of Activities in October, 1918

Public Health Nursing Service—

Resignations of public health nurses during the month included: Miss Catherine McNamara, State Department of Health; Miss Ethel M. Johnson, Hamilton; Miss Claire A. Booth, Zanesville; Miss Viola Fell,

Licking County; Mrs. A. H. Rumer, Chillicothe; Miss Lydia G. Walter, school nurse, Norwalk. Appointments were: Miss Ellen McCarthy, Hamilton; Miss Effie Folsom, Chillicothe; Miss Grace E. Donsing, Salem. The work at Salem was established by the Woman's Council of National Defense.

PREVENTION OF BLINDNESS

Reported cases of inflammation of the eyes of the newborn numbered 180, classified as follows: (by color) white 167, colored 10, unknown 3; (by sex) male 104, female 73, unknown 3; (by source of report) reported by physicians 35, by midwives 67, by nurses 19, by physician and nurse 1, by institutions 58. Five cases were investigated by the Department, instructions were given to health officer by telephone in one case, one case was provided with nursing care and 5,151 prophylactic outfits were distributed.

Tuberculosis Hospitals—

The joint board of commissioners of Proposed District 2 held two meetings to consider the question of a merger with the Lima district. Objections of the State Department of Health to the merger were presented. No decision was reached. Wood County opposed the merger. The second meeting was adjourned until March 18, 1919.

A meeting of the joint board of Proposed District 7, set for October 11, was postponed until November 15.

TUBERCULOSIS HOSPITAL ADMISSIONS AND DISCHARGES REPORTED IN OCTOBER, 1918

<i>Institution</i>	<i>Patients Reported</i>	<i>Admissions</i>	<i>Discharges</i>
Ohio State Sanatorium.....	45	25	21
Butler County Sanatorium.....	5	4	3
Franklin County Sanatorium.....	39	17	27
Lucas County Tuberculosis Hospital....	33	14	21
Dayton District Hospital.....	14	9	7
Lima District Hospital.....	2	0	0
Springfield District Hospital.....	6	4	2
Springfield Lake Sanatorium.....	38	10	37
Mt. Logan Sanatorium.....	5	4	2
Rocky Glen Sanatorium.....	5	2	3
St. Anthony's Hospital.....	11	7	7
Total	203	96	132

Total notifications 228, referred to local public health nurses 166, referred to health department of another state 1, investigated by Division nurses 19, histories unobtainable 15, pending investigation November 1, 27.

Total pending October 1 from September, 48; investigated by Division nurses 12, balance pending November 1, 36

Total pending investigation November 1, 63.

Discharged Tuberculous Soldiers—

Notifications of discharged tuberculous soldiers received in October, with totals since the beginning of work in behalf of these men, are summarized as follows:

	<i>October</i>	<i>Summary</i>
Notifications received	124	865
Cases referred to P. H. nurses.....	75	584
Reports received from P. H. nurses.....	33	294
Cases written directly.....	49	276
Replies received	19	74

	October	Summary
Cases visited by Division nurses.....	8	169
Cases admitted to Sanatoria.....	4	31
Cases not found.....	12	125
Cases not heard from.....	112	254

DIVISION OF LABORATORIES

Summary of Activities in October, 1918

The Division made 1,542 examinations in October, of which 1,119 were bacteriological and 423 were chemical. The bacteriological examinations, with their results, were as follows:

Tuberculosis, pos. 68, neg. 212.....	280
Diphtheria, pos. 34, neg. 138, susp. 1, no growth 24.....	197
Typhoid, pos. 46, neg. 91, susp. 4.....	141
Wassermann, pos. 78, neg. 261, unsat. 13.....	302
Malaria, pos. 0, neg. 2.....	2
Rabies, pos. 5, neg. 2, susp. 2.....	9
Water.....	108
Miscellaneous.....	30

Outfits were distributed in the following quantities:

Tuberculosis.....	442
Diphtheria.....	1,322
Typhoid.....	150
Malaria.....	6
Wassermann.....	514
Ophthalmia.....	5,151
Typhoid vaccine.....	171
Miscellaneous.....	73
Chemical water and sewage.....	11
Bacterial water and sewage.....	130
Total.....	7,970

The chemical samples examined included 39 specimens of foods and 63 of drugs. Results of the food examinations were: Satisfactory 15, misbranded 7, adulterated 15, insufficient information 2. The misbranded products included one sample of vinegar and two each of vanilla extract, miscellaneous extracts and miscellaneous foods. Adulterated foods were: sausage 1, vinegar 9, pop 3, miscellaneous extracts 1, egg substitutes 1.

Reports on the drugs were as follows: satisfactory 27, misbranded 18, adulterated 8, insufficient information 10. The misbranded drugs were listed as follows: tincture of iodine 6, bay rum 3, witch hazel 1, olive oil 1, miscellaneous 7. Those adulterated were: tincture of iodine 1, spirits of camphor 1, camphorated oil 4, acetylsalicylic acid 1, miscellaneous 1.

DIVISION OF SANITARY ENGINEERING

Summary of Activities in October, 1918

Investigations by the Division during October dealt with nine existing and two proposed water supplies and water purification plants, and five existing and eight proposed sewerage systems and sewage treatment plants. Two cases of alleged stream pollution and one case of disposal of industrial wastes were investigated.

Two sets of water supply and water purification plans and five sets of sewerage and sewage treatment plans were examined.

Reports were submitted to the Commissioner of Health in regard to a proposed water purification plant for Geneva, pollution of Little Salt Creek by sewage from Jackson and four sewerage and sewage treatment projects.

An ordinance of the village council of Sylvania, complying with the first condition of approval of plans for a public water supply for that village, was approved.

Thirteen conferences in regard to water and sewer systems were held.

Two certificates of approval for railroad water supplies were granted and one such certificate was refused.

BUREAU OF PUBLICITY, DIVISION OF ADMINISTRATION

Summary of Activities in October, 1918

Thirty-seven publicity stories were released during the month, of which ten were issued through the weekly News Letter and twenty-three were daily reports on the influenza situation to press association bureaus. News Letter stories were published by 101 papers in 85 cities and villages and in 67 counties, attaining a total story circulation (total number of printed copies of stories) of 1,554,323, or an average of 155,432 per story.

Seven hundred and thirty-five thousand copies of seven publications were ordered, among this number being 325,000 copies of two influenza circulars (two editions each). These influenza circulars and 500 copies of Reprint 1808, "Ohio's Tuberculosis Hospital Equipment," were received from the printer. Distribution of publications totaled 273,500 copies, of which 270,000 were of the influenza circulars.

Copy for Volume IX, Number 11 (November, 1918) of the OHIO PUBLIC HEALTH JOURNAL, was prepared.

Nine books and pamphlets were added to the Department library.

INFLUENZA SYMPOSIUM AT A. P. H. A. MEETING.

The influenza epidemic will be made the most important subject of discussion at the December meeting of the American Public Health Association. Some of the questions which will be discussed are the following:

Is influenza vaccine efficacious as a prophylactic?

What type of vaccine is most useful?

Does it help as a therapeutic?

What about nose and throat sprays?

What are the results with convalescent serum?

What about the open-air treatment?

How can the health officer co-ordinate hospital, medical, health and relief agencies in similar calamities?

How can we take advantage of the epidemic for the benefit of more adequate health appropriations and better community and personal hygiene?

The rest of the program will be substantially the same as previously announced.

Headquarters of the meetings will be at the Hotel Morrison, Chicago. The dates are December 9-12, 1918. The meeting was to have been held in October, but was postponed on account of the influenza epidemic.

HEALTH OFFICERS' ROUNDTABLE

"Flu" Conference Held.

Called for the purpose of discussing the State's program for the control of venereal diseases, but changed by the exigencies of the situation into an influenza conference, a meeting of health officers from Ohio municipalities with populations of more than three thousand was held at the Columbus public library on the afternoon of October 10.

The venereal disease phase of the meeting was disposed of with a brief outline of what the State Department of Health plans to do, given by Dr. H. N. Cole, director of the Department's Bureau of Venereal Diseases and acting assistant surgeon in charge of the venereal disease work of the United States Public Health Service in Ohio.

In taking up the influenza discussion, an effort was made to get an idea of the extent of the outbreak by having the health officers present fill out blanks giving the statistics on their local situations and present brief oral reports on their influenza experience to date. The oral reports disclosed a wide diversity of opinion as to the seriousness of the epidemic and as to the means of checking it.

Dr. E. J. Schwartz, director of the Division of Communicable Diseases, gave advice on methods of control, pointing out the impracticability of quarantine and the importance of isolation.

Following the conference the

Public Health Council met and adopted its instructions to health officers for the control of influenza.

Rural Dental Clinics.

By providing free dental clinics for rural school children in several counties, North Carolina has recently taken a unique step in public health work in the United States. A dentist with a special traveling outfit is assigned to each county which has taken up the plan, to visit all sections and treat the teeth of all children who apply.

New Lancaster H. O.

Dr. C. M. Alfred has been appointed health officer of Lancaster, succeeding Dr. H. M. Hazelton, who resigned.

Conneaut to Have New Board.

The Conneaut council has decided after one year's trial to drop the plan of leaving health administration in the city in the hands of a health officer alone, without a board of health. To permit this plan to go into effect, the city authorities a year ago failed to name a board of health, thus leaving the appointment of a health officer to the State Department of Health. Dr. C. W. Dewey was expired November 13. Dr. W. W. Wetmore is his successor, serving under a board of health.

PUBLIC HEALTH NOTES FROM OVER THE STATE

Contact infection was held responsible for most cases of typhoid fever reported in Cleveland in the fall. No case was traced to impure water or milk, according to city health officials, and the frequent occurrence of cases in groups of two or three in single households indicated transmission by contact. This fact was used by the health department as the basis of an appeal for wider use of anti-typhoid inoculation as a preventive measure.

* * *

The Bellefontaine council has passed an ordinance forbidding the maintenance of a privy or cess pool within five hundred feet of any well connected with the city water supply. By thus guarding the water supply against contamination the city makes it possible for the State Department of Health to grant a certificate of approval of the water for railroad use. Such a certificate was recently refused because of the dangerous proximity of privies to the wells.

* * *

Granting of authority to either the city health department or the city building department to correct housing evils which contribute to the spread of disease, is needed in Cincinnati, according to Health Officer William H. Peters. One of the most important provisions of such an enactment, he said, should be one giving the city department power to limit the number of beds in a room. A welfare

worker in a foreign district of Cincinnati recently found twenty cots in one room a little more than twelve feet square and fifteen cots in another room which was also used as a kitchen. The city authorities, according to Dr. Peters, now are without power to remedy such conditions.

* * *

Recent tests have shown the capacity of the Cleveland west side filter plant to be adequate to supply the city with filtered water during seven months of the year. During the five months of heaviest consumption — January, February, June, July and August — unfiltered water also must be pumped into the mains.

Every year more and more organizations adopt the plan of having their workers cared for by a physician at the expense of the concern. Like every other change, this has come as the result of sound common sense and foresight, and is not caused by any philanthropic tendencies on the part of employers. It is much less expensive to pay a salary to the physician to keep employes in good health, than it is to pay salaries for days of absence, and also have the work reduced in volume and quality during the days employes are not feeling well. And, as much as it is in our power, we owe it to our jobs to keep our health good. — *Dayton Herald.*

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THE DEPARTMENT'S ROLL OF HONOR

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J. S. McCUNE,	JOHN H. JACKSON.

EDITORIALS

The Year Just Past and the Year Ahead A year ago in the OHIO PUBLIC JOURNAL the State Department of Health presented its program for 1918. Wartime handicaps have interfered with the carrying out of some of the plans outlined at that time, but in general the past year has been one of progress in the public health field in Ohio.

Looking forward, however, into 1919, one has no difficulty in finding broad opportunities for achieving further improvements.

The venereal disease program, emphasized a year ago as one of the two most important phases of the general program, has been applied with great success during the past year, and during the year just ahead, with ample funds available to support the work, still better results in this field are to be expected.

The other important "war measure" of the Department as planned last December was an intensive industrial-hygiene study of the munitions industry in Ohio. Some work on this survey was done but it was found impossible to develop the project as fully as was originally planned. Moreover, the activities of the United States Public Health Service in

the field of industrial hygiene relieved the State Department of Health of much of the responsibility for this work. The close of the war has of course eliminated the munitions industry as a field for special work.

During 1918 the Division of Laboratories of the Department, according to the announced program, entered upon diagnostic work in syphilis and gonorrhea, thus backing up the work of the Bureau of Venereal Diseases.

The Division of Communicable Diseases has recently been strengthened by the addition of an assistant epidemiologist to its staff. The lack of such an assistant had made it impossible for several months for the Division to meet all calls for its service.

The child welfare activities of the Department since last April have been devoted to a large extent to supporting the Federal Children's Bureau in its Children's Year campaign. In the early months of this campaign, Dr. Frances M. Hollingshead, Director of the Division of Child Hygiene in the Department, also held the position of chairman of the child welfare committee of the State Defense Council, thereby combining the child welfare activities of the two agencies under one head. With the departure of Dr. Hollingshead to engage in Red Cross work in France and the transfer of child hygiene work of the Department to the Bureau of Public Health Nursing, the Defense Council took over the active direction of the Children's Year activities, receiving the full co-operation of the State Department of Health in carrying on the program. It is early to discuss the question of what the Children's Year campaign has accomplished, and perhaps as a result of the interruption brought about by the influenza epidemic this question can never be accurately answered. It is reasonable, however, to say in a general way that much valuable educational work has been accomplished and that in some localities where the work has been adequately organized and properly directed real results in the reduction of infant mortality have been achieved.

The Bureau of Tuberculosis during the past year has met with success in its work among discharged tuberculous soldiers and in encouraging the establishment of new sanatoria. Figures presented at the recent Mississippi Valley Conference on Tuberculosis showed Ohio leading other states in this section in the percentage of discharged soldiers brought into touch with the Department. In the course of the year one new district tuberculosis hospital (that at Chillicothe) has been opened, two additional districts have been organized and have appropriated money for hospitals and two other proposed districts have effected temporary organizations. The work in behalf of discharged soldiers is to be con-

tinued as long as necessary and the hospital movement will be pushed vigorously during the coming year. It is felt that the war and the influenza epidemic are likely to result in increased tuberculosis prevalence and therefore in greater need for hospitals.

The Bureau of Public Health Nursing, hampered by scarcity of nurses during the war, hopes to have enough nurses available now to make possible important extensions of the State's nursing service.

The Division of Sanitary Engineering will also be relieved of war handicaps soon, with the return of members of its staff from military service.

Rural hygiene plans, mentioned as a prospect for the future in discussing the 1918 program, are still being kept in mind. Such plans will work in well with any improvement in local health administration which may be effected by this year's legislation.

As it formulates its plans for the year now beginning, the State Department of Health recognizes that it is entering upon a year fraught with great possibilities for public health development. It purposes to develop these possibilities to the greatest extent possible, and to that end it asks the earnest co-operation of the public-spirited citizens of the State.

* * *

War Is Over: Let's Get Down to Work With Dr. Allen W. Freeman, Commissioner of Health, back from his army service and other members of the staff of the State Department of Health expected to return soon, the Department has begun to get back on a normal basis.

With peace conditions once more prevailing, with the Department organization about to be restored and with a reorganization of the State's local health machinery in prospect, a new era of public health progress is soon to begin in Ohio.

Throughout the country, the extension of governmental health activities is being discussed as a necessary part of the program of reconstruction. In Ohio the need for development in the public health field is greater than in many other states. Our State Department of Health was, by action of the last General Assembly, reorganized in such a way as to increase its efficiency. Our local health organization, however, is still notoriously inadequate to give the people of the State the health protection they need. Action from the new legislature to remedy this deficiency is hoped for.

The State Department of Health is ready to do its part in improving health conditions in Ohio. During the war it has been hampered in its

work by the absence of many valuable members of its staff, but this difficulty is soon to be wiped out. The State Department of Health can accomplish comparatively little, however, so long as its hands are tied by our present local health administrative system.

To enable it to do the work which the State expects it to do and which it earnestly desires to do, the Department therefore calls upon the people of Ohio, through their legislative representatives, to provide an adequate system of local health organization.

More specifically, it requests that provision be made for the establishment of health districts large enough to employ competent health officers at reasonable salaries, and that the health work of the State be standardized by giving the State Department of Health some degree of supervision over local health officials.

* * *

The Influenza Prospect for Coming Months

Influenza may be expected to prevail in Ohio throughout the winter and possibly through next year. The experience of European countries in the present pandemic and the history of previous outbreaks indicate that this situation is likely to develop.

Already a serious recurrence of the outbreak has been noted in the State, and later recurrences are to be expected. Restrictive measures, students of influenza have come to believe, have their chief value in preventing the development of enough cases at any one time to paralyze a community and in reducing the death rate, rather than in actually preventing the development of a given total of cases in the entire epidemic.

It is estimated that in the course of an influenza epidemic forty per cent of the population, on the average, will have the disease. The longer the period over which this case total can be distributed in any community, the greater will be the ability of local health officials, physicians, nurses and relief agencies to handle the situation.

An encouraging reduction in the percentage of fatal cases has been noted in the later weeks of the Ohio epidemic to date. This is probably to be attributed in part to the decreased virulence of the disease, but some credit must also be given to educational activities which have acquainted the people of the State with methods of caring for influenza patients. Continuance of educational work is important in preventing deaths—it is not to be doubted that many deaths are attributable to the failure of victims to take influenza seriously enough.

If all physicians and public health agencies will continue to impress upon the people the need for going to bed and calling a doctor as soon

as influenza develops, for following implicitly the physician's directions as to treatment and for getting sufficient rest during the convalescent period, and if the people will follow this advice, the influenza death total will continue to decrease.

* * *

Ohio's Influenza Policy and Its Justification

Briefly summarized, Ohio's program for the control of influenza has consisted of (1) restrictions upon public gatherings, applied in each community as indicated by the local situation; (2) regulations providing for the reporting of cases by physicians; (3) measures for the education of the public in regard to influenza; (4) extension of medical and nursing aid to stricken communities. The State Department of Health has not adopted regulations for the quarantine of households in which cases exist and has not advocated the adoption of local regulations to this effect.

These policies receive justification in the report of the committees of the American Public Health Association appointed at the December meeting in Chicago to draw up a program for influenza control. Among the preventive measures recommended in this report are included all the measures adopted by the State Department of Health. The report does not advocate quarantine of cases or general placarding of cases, saying in regard to these points:

The isolation of patients suffering from influenza should be practiced. In cases of unreasonable carelessness it should be legally enforced most rigidly.

In cases of unreasonable carelessness and disregard of the public interests placarding should be enforced.

In some localities a popular demand for quarantine of households having cases of influenza has arisen. In view of the report here quoted, which is backed by the collective opinion of America's leading sanitarians, the State Department of Health feels that no defense of its course in resisting this demand is necessary.

By way of explanation, however, it may be said that the Department's opposition to quarantine and placarding regulations has been based upon these considerations: (1) the fact that such regulations would deter many influenza victims from calling physicians and thereby would increase the percentage of fatalities; (2) the fact that the disease is highly contagious in its incipient stage, before it is likely to be diagnosed; (3) the practical difficulties involved in enforcing such regulations with the limited facilities at the disposal of most local health

departments, making it seem advisable to devote all efforts to measures more productive of the desired result: the reduction of influenza mortality.

* * *

Child Welfare Workers' Duty in the Influenza Epidemic

Far from being a baby-saving year, 1918 appears likely to be a year of abnormally high infant mortality.

The influenza epidemic is responsible for this ironical situation.

A "saving" of 215 babies in Ohio in the first six months of the Children's Year (April to September inclusive) was changed by influenza deaths in October, the first month of the epidemic, into a seven months' loss of 653. That is, in seven months of the present year 653 more children under five years old died than in the average seven months of 1916, the year upon which baby-saving quotas were based. In view of the widespread prevalence and high mortality rate of influenza throughout the State, the later months can not be expected to bring about any reduction in the year's total of baby deaths.

Child welfare workers in the various communities of the State have had thrust upon them by the epidemic a more imperative responsibility than was theirs earlier in the year. In the spring and summer they had only to make an effort to protect the children of the State against normal health menaces; now they face the duty of warding off, not only the ordinary fall and winter dangers but also the scourge which has already taken such a heavy toll of both infant and adult lives.

While accurate statistics on the subject can not be quoted, it is a recognized fact among physicians that influenza is far more dangerous to babies than to older children or adults. This being the case, any program for the reduction of infant mortality which does not embrace measures for the special protection of babies against influenza is sadly incomplete. In a State organized for child welfare work as Ohio has been during the past year, no community should be without some sort of machinery for warding off the influenza danger to babies. Other child welfare activities should be sidetracked for the time being if necessary—at all events, intrinsically valuable though they may be, they should not be permitted to interfere with this crying need of the present moment.

Child welfare workers should follow up closely the progress of the influenza epidemic in their communities. They should ascertain whether young children in households attacked by the disease are being properly safeguarded and should remedy any deficiencies they may discover. They should see that babies stricken by the disease are given proper food, providing this at community expense if it is not otherwise available.

In other words, while co-operating with other agencies in the general fight against the epidemic, child welfare organizations should recognize the babies as their own special charge and should center all their activities upon giving the children all possible protection against the disease.

Under conditions such as have developed in Ohio, no body of child welfare workers should worry over the abstract question of whether they are going to save their quota of babies. Their consciences should trouble them, however, if babies die in their respective communities because of lack of proper care and food.

* * *

Smallpox Again Threatens: The people of Ohio, guided by their
Ward It Off by Vaccination physicians and health officials, have it
 in their power to say whether the State
 shall suffer this winter from smallpox conditions similar to those which
 existed last winter.

The smallpox rate began to rise as soon as cold weather appeared. The November morbidity report, compiled by the Division of Communicable Diseases of the State Department of Health and published elsewhere in this magazine, gives a total of 434 reported cases of smallpox in November. This is a higher total than is recorded for any November in the past five years, with the exception of last November, when one of the most serious smallpox epidemics in the history of the State was beginning.

The solution of the smallpox question lies in the known efficacy of vaccination. A community in which vaccination has been generally practiced will never have a serious smallpox outbreak. A community where this precaution has been neglected is certain, with conditions as they are in Ohio, to be attacked by the disease sooner or later.

In which class will your community be?

* * *

Sanatorium Establishment Made The removal of war restrictions
Easier by Coming of Peace upon construction work should give
 added impetus to the movement for
 increasing Ohio's tuberculosis hospital equipment. Buildings may now
 be erected without the necessity of obtaining permission from govern-
 mental authorities.

The restrictions upon construction have been to a large extent an imaginary obstacle to the establishment of new sanatoria. The government in reality has favored the construction of such institutions as a general proposition, demanding only that reasonable economy be exercised in building them. Despite this generally favorable attitude, however, it cannot be denied that the restrictions did hamper the carrying

out of plans for extension of Ohio's sanatorium system. The government favored tuberculosis hospitals because of their important relation to the military program, but it required so much unwinding of red tape to obtain an authorization for construction work that some boards of commissioners preferred to avoid difficulty by waiting until after the war to establish their hospitals.

Now that the war is over and all restrictions are off, it is to be hoped that the year 1919 will see still more progress in the tuberculosis hospital field than has marked 1918—the State's record year to date.

The Progress of Preventive Medicine.

The most outstanding feature of the war from the medical standpoint has been the really remarkable results obtained in the prevention of disease. War on an unparalleled scale has been going on for more than four years, waged under conditions in themselves calculated to initiate and spread contagious diseases; yet with the exception of typhus fever in Serbia and the recent epidemic of respiratory disease there have been no extensive epidemics such as have occurred in previous wars. Typhoid fever, which, up to the time of the Russo-Japanese War, had been the scourge of armies in the field, has been almost a negligible quantity. In the Boer and Spanish-American Wars, typhoid killed and incapacitated thousands. In the Russo-Japanese War the real beginning was made and typhoid checked. In the war just over, it has been entirely robbed of its sting. As with typhoid, so with the other war pestilences. Trench

fever after a short time was brought under control through scientific investigation. It has been not only by preventive measures in warding off epidemics but also by close attention to personal hygiene that health in the armies on the western front has been maintained at a high standard. Preventive medicine during the past twenty years has progressed apace, and its value has been greatly emphasized by its strong showing in the war. The experience thus gained should now be put to good use in civilian communities.

If masses of men enduring the stress and strain of modern warfare can be kept healthy by the enforcement of sanitary and hygienic measures, it will certainly be reasonable to suppose that the general health of a civilian population cannot fail to be greatly benefited by the adoption of similar methods.—*Journal of the American Medical Association*, LXXI, 24, (December 14, 1918), p. 1999.

A Working Program for Influenza Control

Prepared by an Editorial Committee of the American Public Health Association and Based Upon Papers, Committee Reports and Discussion at the December Meeting of the Association.

Something is known concerning the nature of influenza. Much remains to be determined. Administrative health agencies, however, must act in the light of present knowledge. They cannot wait until the last word has been said in respect to the identity and nature of the micro-organism or virus that causes the disease, or in respect to the channels through which it may be spread, or for the discovery of specific vaccines or sera for prevention or cure.

THE above statements preface the report of the committee of the American Public Health Association which, at the December meeting of the Association, was charged with the duty of preparing a provisional working formula for the control of influenza, based upon the facts and opinions elicited at the meeting.

Carrying out the plan of summarizing present knowledge and basing a working program upon it, the committee presents in its introductory statement these points which summarize much of what we now know about influenza:

The present epidemic is the result of a disease of extreme communicability, limited, so far as the committee's information shows, to human beings.

The micro-organism or virus primarily responsible for the disease has not been identified, but there is no reason whatsoever for doubting that such an agency is responsible for it.

It has not yet been satisfactorily established that the present epidemic is due to the disease heretofore known as influenza, nor has it been established that all preceding outbreaks of disease styled at the time "influenza" have been outbreaks of one and the same malady.

There is no known laboratory method by which influenza (in the lack of definite information as to the identity of the disease now prevalent the committee refers to it by this name) can be distinguished from an ordinary cold, bronchitis or other inflammation of the membranes of the nose, pharynx and throat, or by which it can be determined when a person who has had influenza ceases to be a carrier.

Research and clinical laboratories are necessary agencies for the supervision and ultimate control of the disease—the former for the identification of the causative organism or virus and for the propagation of a vaccine and a serum, and the latter for the supervision and control of vaccines and sera which may be used and for the information they can give as to variations in the types of infective organisms which may occur.

Influenza deaths commonly result from pneumonias, due to apparently secondary invasions of the lungs by streptococci, pneumococci or the bacillus of Pfeiffer.

Evidence seems conclusive that the infective organism or virus is given off from the nose and mouth of infected persons and is taken in through the mouth or nose (or perhaps the eye) of the person who contracts the disease.

Prevention.

The principles of preventive action, which can be stated despite the fact that the causative organism or virus is still unknown, are the following, according to the committee:

1. Break the channels of communication by which the infective agent passes from one person to another.

2. Render persons exposed to infection immune, or at least more resistant, by the use of vaccines.

3. Increase the natural resistance of persons exposed to the disease, by augmented healthfulness.

The committee proposes to break the channels of communication by preventing droplet infection, by sputum control and by supervision of food and drink. The first of these is declared to be of prime importance. The sputum danger is said to rest chiefly in contamination of the hands and common drinking and eating utensils. Evidence is considered to indicate little danger through food and drink.

Taking up the second of its preventive principles, the committee says that evidence as to the success or lack of success of vaccine practice is contradictory and irreconcilable. "In view of the fact that the causative organism is unknown, there is no scientific basis for the use of any particular vaccine against the primary disease. If used, any vaccine must be employed on the chance that it bears a relation to the unknown organism causing the disease. The use of vaccines for the complicating infections rests on more logical grounds, and yet the committee has not sufficient evidence to indicate that they can be used with any con-

fident assurance of success. In the use of these vaccines the patient should realize that the practice is still in a developmental stage." The committee prescribes conditions which it believes should be complied with in experimental use of vaccines to determine their preventive or curative value.

In regard to increased natural resistance of persons exposed to the disease, the committee recommends that physical and nervous exhaustion be avoided by paying due regard to rest, exercise, physical and mental labor and hours of sleep, but says the evidence is conclusive that youth and bodily vigor do not guarantee immunity to the disease.

Pointing out that preventive measures practicable and necessary in any given situation depend to a great extent upon local conditions and upon the stage and type of the epidemic curve, the committee declares it impossible to lay down rules for the guidance of all health officials alike. It states general principles that should underlie administrative measures for the prevention of influenza and advises that the application of these principles to the needs of any particular community must be left for determination by local health officials. The preventive measures recommended by the committee are as follows:

1. Efficient organization to meet the emergency, providing for centralized co-ordination and control of all resources.

2. Machinery for ascertaining all facts regarding the epidemic (compulsory reporting, a lay or professional canvass for cases, etc.)

3. Widespread publicity and education with respect to respira-

tory hygiene and the danger of the common cold.

4. Administrative procedures, taken up in detail under the following heads:

Laws, properly enforced, forbidding the use of common cups, requiring proper washing of glasses at public drinking places and requiring proper ventilating facilities.

Closing: "The limitation of gatherings with respect to size and frequency, and the regulation of the conditions under which they may be held, must be regarded as an essential administrative procedure. Nonessential gatherings should be prohibited. Necessary gatherings should be held under such conditions as will insure the greatest possible amount of floor space to each individual present, and a maximum of fresh air, and precautions should be taken to prevent unguarded sneezing, coughing, cheering, etc. Where the necessary activities of the population, such as the performance of daily work and the earning of a living, compel considerable crowding and contact, but little is gained by closing certain types of meeting places. If, on the other hand, the community can function without much of contact between individual members thereof, relatively much is gained by closing or preventing assemblages."

Schools: The committee discusses the following points which must be considered in regard to the closing of schools: (a) Probability of increasing or decreasing number and degree of contacts between children by closing; (b) weather and transportation conditions affecting children enroute to school; (c) nursing and inspection system in the schools; (d) possibility of diagnosing and segregating case in school before child has made a number of contacts; (e) release of personnel and facilities for fighting epidemic by closing schools; (f) possible lowering of educational standards by absence of teachers if schools remain open; (g) possible drag on classes, constituted by children who remain at home because of illness or fear; (h) possibility of outbreak occurring, despite closing, when schools reopen.

Churches: If churches remain open, services should be as few as

possible and intimacy and frequency of personal contacts should be reduced to a minimum.

Theaters: Reliance upon ejection of careless coughers, with theaters remaining open, is discouraged. "The closing of theaters may have as much educational value as their use for direct educational purposes. Discrimination as to closing among theaters, movies, etc., on the basis of efficiency of ventilation and general sanitation, may be feasible."

Saloons and Other Drinking Places: Closing should depend upon the probability of the spread of the disease through drinking utensils and crowding.

Dance Halls, Billiard Rooms, etc.: Such places should be closed where their operation causes considerable personal contact and crowding.

Street Cars, etc.: "Ventilation and cleanliness should be insisted upon in all transportation facilities. Overcrowding should be discouraged. A staggering of opening and closing hours in stores and factories to prevent overcrowding of transportation facilities may be cautiously experimented with. In small communities where it is feasible for persons to walk to their work it is better to discontinue the service of local transportation facilities."

Funerals: Public funerals should be prohibited.

Masks: Wearing of masks should be compulsory in hospitals and for all who are directly exposed to infection. It should be compulsory for barbers, dentists, etc. Compulsory wearing of masks by the entire population is of doubtful value, according to evidence before the committee, which says it was not encouraged by the evidence to suggest the general adoption of the practice. Voluntary wearing of masks should be encouraged.

Isolation of influenza patients should be practiced. In cases of unreasonable carelessness it should be legally enforced.

Placarding should be practiced in cases of unreasonable carelessness.

Hospitalization cannot be depended upon to eliminate influenza unless every infective person can be detected as such

and removed to the hospital before he has infected others. Home treatment is advised where medical, nursing and other facilities are adequate and where home treatment is not directly contraindicated by the danger of infecting others. Hospitalization in any case, mild or severe, is recommended only where facilities for home treatment are inadequate. Routine hospitalization in mild cases may expose patients to secondary infections in the hospital, and in severe cases may endanger the patient during the transfer from home to hospital.

Coughing and Sneezing: "Laws regulating coughing and sneezing seem to be desirable for educational and practical results."

Terminal Disinfection was found to have no advantages over cleaning, sunning and airing.

Alcohol was declared to be of no preventive value.

Sprays and Gargles were declared to be of no protective value, reasons stated being: (a) no germicide known to the committee and strong enough to destroy infective organisms can be applied to the nose and throat without injury to the mucous membranes; (b) irrigation to remove the infective organism by mechanical means is impracticable; (c) their use tends to remove the protective mucus, to spread the infection and to increase the liability of actual entrance of the infective organisms; (d) their domestic use encourages the common use of utensils in families; (e) their futility has been demonstrated with respect to known organisms such as the diphtheria bacillus and the meningococcus.

The committee recommends institutional quarantine of colleges, asylums and similar establishments against the outside world, such quarantine to be instituted early in an epidemic. The recommended measures, it is pointed out, even if they do not accomplish the desired end, should at least be instrumental in distributing the epidemic over a longer period of time. The keeping and study of detailed statistics of the epidemic is emphasized as of great value.

Measures for Relief.

The subcommittee on administrative measures for relief recommends the following measures, all of which are discussed in detail in the report:

1. General rules, including such compulsory reporting and degree of isolation and placarding as will not discourage reporting of cases.

2. Preliminary measures—listing and distribution of resources, centralization of resources under one control, maintenance of the system on a twenty-four hour basis and constant co-operation with state and national agencies.

3. Current and continuous analysis of case situation.

4. Analysis, augmentation and organization of principal facilities, including field nursing, emergency medical service and hospital facilities.

5. Social and relief measures.

6. Provision of facilities for preparing and distributing food.

7. Provision for laundry work.

8. Provision for care of the dead.

9. Education, instruction and publicity on various phases of the situation.

Bacteriology.

The subcommittee on the bacteriology of the epidemic discusses in its report the nature of the infective organism, the organisms causing the complicating infections and the value and use of vaccines. Under the head of "Recommendations," the subcommittee made the following report:

Your committee recommends that until such time as the efficacy, or lack of efficacy, of prophylactic vaccination against influenza is established; vaccine if used should be employed in a controlled manner, under conditions that will allow a fair comparison of the number of

cases and of deaths among the vaccinated and nonvaccinated groups. Particular attention should be directed to securing data as to the period in the epidemic at which vaccinated and nonvaccinated persons developed the disease.

Your committee is of the opinion that the indiscriminate use of stock vaccines against influenza and influenza and pneumonia cannot be recommended.

Nothing in these recommendations should be interpreted as discouraging the use of a pneumococcus stock vaccine against lobar pneumonia.

This epidemic emphasizes the importance of properly equipped laboratories.

History and Statistics.

Pointing out that at this early period no positive statement can be made as to the incidence of influenza in the American population, the subcommittee on the history and statistics of the epidemic estimates that there were not fewer than 400,000 deaths from the disease in the United States during September, October and November. The major portion of this mortality occurred between the ages of 20 and 40 years — economically the most important period of human life. The statistical subcommittee and a committee representing the section on vital statistics of the Association will co-operate in the statistical study of the epidemic and will submit standard forms for tabulation, analysis and graphic presentation in a supplementary report.

Suggestions.

The following important suggestions close the report:

"In view of the probability of recurrences of the disease from time to time during the coming year, health departments are advised to be ready in advance with plans for prevention, which plans

shall embody the framework of necessary measures and as much detail as is possible. Laws plainly necessary should be enacted and rules passed now. Emergency funds should be held in reserve or placed in special appropriations, which appropriations can be quickly made available for influenza prevention work.

"The probability that as an after-effect of the influenza epidemic there will be an unusually high pneumonia rate for several years should be taken into consideration.

"Of measures for the control of the disease, bacteriologic studies as to the nature of the organisms causing the primary infection and as to bacteriologic associations, new and improved procedures leading to the production and use of effective vaccines and curative sera, and the fresh air treatment of the infected, appear to offer most promise."

WANTED — COPIES OF MARCH JOURNAL.

The unusual demand for copies of the OHIO PUBLIC HEALTH JOURNAL for last March, the Child Hygiene Number, reduced the Department's supply of this issue to a point below the minimum number ordinarily kept on hand for reference purposes.

If any readers have extra copies of this number, or copies which they do not intend to preserve, the Department would greatly appreciate having such copies mailed to its office in Columbus. Any postal charges incurred will be refunded to the senders.

Venereal Disease Work of the State Department of Health

EXTENSIONS of the work of the State Department of Health for the control of venereal diseases are planned for 1919, with the aid of the Federal funds now available and of additional legislation which it is hoped will be adopted by the General Assembly this winter.

Venereal disease work in Ohio at the present time is being financed by a grant of \$51,832.16 received from the Federal Government as the State's share of an appropriation of \$1,000,000 provided by the Chamberlain-Kahn Act for distribution to the states for use in the prevention, control and treatment of venereal diseases. This money, by the terms of the grant, must be expended in accordance with regulations drawn up by the United States Public Health Service. The appropriation expires July 1, 1919, after which date the Federal Government will give to each state an amount equal to that appropriated by the legislature of that state.

The Public Health Service rules for conduct of the state campaigns provide for state regulations or laws for the control of venereal diseases, to the prescribed details of which the Ohio regulations* conform; for the employment of a Public Health Service officer as director of the state venereal disease activities (Dr. H. N. Cole, director of the Ohio Bureau of Venereal Diseases, holds the rank

of acting assistant surgeon in the Public Health Service); for the use of available local or state funds in extension of the work; for action toward the organization of a state venereal committee, unofficial in character, for educational purposes; for efforts to obtain such additional state legislation as may be necessary; for the correlation of the state program with the activities of the interdepartmental social hygiene board within the state; for the adoption of a standard budget for the apportionment of the funds to be expended (this was outlined in last month's OHIO PUBLIC HEALTH JOURNAL), and for the co-operation of the Public Health Service with state health authorities.

Clinics Established.

Venereal disease clinics, in charge of United States Public Health Service officers, have been established by the Bureau of Venereal Diseases of the State Department of Health in eight Ohio cities—Akron, Cincinnati 2, Cleveland 4, Columbus, Dayton, Springfield, Toledo and Youngstown. In addition the state helps finance the venereal clinic operated by the United States Public Health Service at Chillicothe as a part of its activities in the Camp Sherman Extra-Cantonment Zone.† Arrangements have been completed for the

*See OHIO PUBLIC HEALTH JOURNAL, IX, p. 258 (June, 1918).

† See "Sanitation in the Camp Sherman Extra-Cantonment Zone, Chillicothe, Ohio," by D. E. Robinson, Surgeon, U. S. P. H. S., OHIO PUBLIC HEALTH JOURNAL, IX, p. 153 (April, 1918).

VENEREAL DISEASES

Their Cost. Their Prevention and Treatment.

AN OFFER OF HELP

Exposing yourself to GONORRHEA (Clap) is taking a chance—

- On going blind;**
- On losing your strength and health;**
- On never having children;**
- On having blind children, if you do have any at all;**
- On making your wife an invalid for life—half of the dangerous operations on the female organs are due to disease contracted from the husband.**

You can't be sure an apparent cure in a case of gonorrhea is a real cure. The germs may remain in the system after all symptoms have disappeared, only to become active when you marry. Then you may infect an innocent wife and an unborn child. You have no right to marry when there is the slightest chance of danger.

SYPHILIS is as bad as gonorrhea, if not worse. It can ordinarily be cured, if proper treatment is applied soon enough.

The Only Way TO AVOID Venereal Diseases

and their consequences is to

KEEP AWAY FROM PROSTITUTES

Regulars, Streetwalkers or Private Snaps. Most of them are diseased. One night's dissipation may cost you and others many years of misery and distress. You can't depend upon antiseptic washes or other devices to protect you from infection.

STEER CLEAR OF ADVERTISING QUACKS

who profess to cure "Nervous Debility," "Lost Manhood," "Blood Poison" and "Private Diseases of Men." These "specialists" are after your money. They won't help you; they are likely to hurt you. If you are well, don't let them persuade you that natural occurrences, such as night emissions, are signs of disease.

DON'T LET A DRUG CLERK TREAT YOU. He knows no more about it than you do.

CONSULT A REPUTABLE PHYSICIAN

when you need medical advice and instructions.

If you are in doubt or trouble and want advice or instructions on any phase of sex subjects,

ASK THE STATE DEPARTMENT OF HEALTH

for aid. A medical expert on its staff will be glad to give you, **FREE** of charge, **PERSONAL ANSWERS** to your questions. **Your letters will be treated as CONFIDENTIAL.** Your name will not be made known. Replies will be mailed in **PLAIN ENVELOPES**, with no indication of their source.

Be as personal as you wish. You need **INFORMATION** to safeguard your health, and the department will put the facts before you. Address **ADVISOR, State Department of Health, Columbus.**

Before You Sow Your Wild Oats, LEARN THE TRUTH About the Crop They May Produce.

Above is reproduced, although not in the type-style of the original, the text of the educational placard which is being used in the campaign of the State Department of Health against venereal disease. The card used is six inches wide and twelve inches high and is framed behind glass in a substantial black wooden frame.

opening of clinics at Ashtabula, Lorain, Portsmouth and Alliance, and several other proposed clinics are under discussion. All of the clinics have salaried social service nurses to follow up cases and keep in touch with patients.

The Bureau of Venereal Diseases has been active in enforcing the State venereal disease regulations, so far as possible with facilities thus far available. Free diagnostic work in syphilis and gonorrhea has been done for the physicians of the State for several months past by the Department's Division of Laboratories. The number of hospital beds for venereal patients in the State has been materially increased as a result of the activity of the Bureau of Venereal Diseases, although the number is still far below the State's needs. Several notorious red light districts in the State have been closed through efforts of the Bureau.

Educational Work.

Educational work among both venereal disease patients and the general public has been an important feature of the campaign. Placards, a reproduction of the text of which is published with this article, have been posted throughout the State; these placards are placed behind glass in a substantial black wood frame. The first edition of five thousand placards is almost exhausted and a second edition of equal size is now on the press. Five thousand copies each of three sex hygiene pamphlets—"Instructing Your Child in the Facts of Sex," "Some Things a Young Man Should Know About Sex and Sex Diseases," and "How Any Boy Can Develop His Health and Strength"—have been distributed and a second edition of ten

thousand copies each has just been issued. A series of three circulars—one on syphilis, one on gonorrhea and one on chancroid—has been published for distribution by physicians to their venereal patients, in accordance with the section of the regulations which requires such distribution. The gonorrhea and syphilis circulars have been reproduced in Armenian, Finnish, French, Lithuanian, Italian, Syrian, Polish, Yiddish and Greek for use among the State's non-English-speaking population. A supply of this literature, together with report cards and other necessary blanks, is being mailed to each physician in the State.

Personal advice in answer to letters of inquiry upon sex subjects has been given to hundreds of persons by the Bureau of Venereal Diseases. This service is offered free to any resident of the State.

Lectures have been given by representatives of the Bureau before various groups, such as Y. M. C. A.'s, churches, clubs, educational societies and workers in industrial plants. A lecture, illustrated by a motion picture, was given to Class One draft registrants in many localities. Plans for the near future call for the delivery of a lecture before high school boys in all cities of more than eight thousand population and the advisability of obtaining women lecturers to present similar information to high school girls is being discussed.

Program for 1919.

All these activities begun during the past year will be continued and amplified in 1919. Regarding extensions of the work planned for 1919, Dr. H. N. Cole, Director of

the Bureau of Venereal Diseases, has made the following statement:

"We must have more careful reports on all cases of venereal diseases, sources of infection must be more closely watched and quarantined and all cases of venereal diseases must be kept under close surveillance if we desire to lower the rate in the state, though our rate is rather hypothetical at present because of failure to report these cases. All citizens and communities should take the greatest interest in this work and co-operate with us in establishing clinics and getting hospital beds, for it is only through hospitalization of prostitutes that we can hope to get results. This is also true of many other cases in the first stage of syphilis.

"Moreover, we are firmly convinced that the State of Ohio must adopt a plan much like that of Virginia, Michigan, Kansas, Connecticut and several other places if we wish to protect the small communities. We refer to the establishment of a large central hospital farm where the prostitutes and those venereally dangerous to others may be placed for a greater or less length of time, put under careful treatment both physically and mentally, and if necessary, even quarantined. This is a very urgent need in the State of Ohio. At present we are hesitating to close up a line consisting of some seventy houses because we do not know where to place the women after they are arrested. We know from findings in other places that about ninety per cent of the women will have gonorrhea, that from fifty to sixty per cent of them will have syphilis in contagious stages and that there will be prac-

tically none without some venereal disease. Yet it is useless simply to arrest them until we can place them and treat them at once. We might add that there are several such black spots in our State at present. On a central hospital farm the patients would not only be treated but would have an opportunity for clean outdoor work and an opportunity to become clean mentally and morally."

NEW PUBLICATIONS OUT.

Write to the State Department for copies of these publications, recently issued:

Educational Circular 114—*"A Few Facts About Gonorrhea."*

E. C. 115—*"A Few Facts About Syphilis."*

E. C. 116—*"A Few Facts About Chancroids."*

E. C. 117—*"Influenza: How to Avoid It; How to Care for Those Who Have It"* (poster).

E. C. 119—*"Influenza, How to Avoid It; How to Care for Those Who Have It"* (pocket-size folder).

E. C. 119—*"Influenza, Pneumonia and Tuberculosis Are Spread by Careless Spitters"* (anti-spitting cartoon designed for posting in factories).

Administrative Bulletin 130—*"Laboratory Service of the Ohio State Department of Health."*

Venereal Diseases in the Army, Navy and Community¹

BY BISHOP WILLIAM LAWRENCE, D. D.

We are at war. Every man, woman, and child in the country is alert, caring for his health, saving food, money and time, getting ready for battle. Whatever hinders action or weakens strength is cut out. Society is coming to a war basis. Physical health and rugged character are of prime importance. Bad teeth, bad feet, poor blood, measles and other contagious diseases are our enemies. So are weak wills, low ideals, and moral cowardice. We are moving against these with power. The discipline of camp and the self-denials of home are making us a stronger and better people.

The tragedy of the situation is this— not that we have foes across the water, but in our midst; foes in our own household whom we do not and will not see and bring out into the open. More subtle and dangerous to our success in this war than German propaganda, pacifist or anarchist, are two diseases which are insidiously working into the vitals of our young men and women, and which by a traditional conspiracy of silence the people refuse to recognize.

You have no reason to believe me in medical matters. But you cannot escape the statements of medical experts of world-wide reputation. Listen while I quote from them.

Dr. Rosenau of the Harvard Medical School, writes, "As a danger to public health, as a peril to the family and as a menace to vitality, health and physical progress of the race, the venereal diseases are justly regarded as the greatest of modern plagues."

Dr. Osler says that syphilis is one of the four greatest killing diseases.

Dr. Morrow says, "No disease has such a murderous influence upon the offspring as syphilis; no disease has such a destructive influence upon the health and procreative function of women as gonorrhea. Inherited syphilis

is a powerful factor in the degeneration of the race."

Dr. Biggs states that in 1912 of the population of New York City at least eight hundred thousand people, one-fifth of the population, have or have had some venereal disease, and that in a large percent the disease is still active.

At a medical meeting in Vienna in November, 1916, figures were given to show that of the seven million in the Austrian army, seven to eight hundred thousand were suffering from venereal diseases.

Statements issued under the auspices of the United States Army report of syphilis: "There is as much syphilis as consumption in the average community, but syphilis is more infectious; it is a blood disease and may be transmitted to children before birth, making them physically and mentally defective; it is the cause of nearly half the abortions and miscarriages. It is the cause (experts say the chief cause) of locomotor ataxia, softening of the brain, paralysis, and a great percentage of insanity; it is the cause of a large proportion of diseases of the heart, blood-vessels and other vital organs."

"Gonorrhea is the most prevalent of all diseases except measles; one of the most dangerous and difficult to cure. It blinds thousands of men and women in this country every year and is the cause of eighty percent of blindness in new born babies; is the cause of most surgical operations on women and of much of the sterility of women."

I, who am only a layman, could make you shudder at the tragedies from the disease: men who have thought themselves cured years back compelled for life to care for and look upon their imbecile or hideously deformed child, which silently cures them for the ignorance or sins of their youth. We could conjure up an host of children, men and women imbeciles, deformed, insane,

¹ Lecture by Bishop Lawrence at the Harvard Medical School, Boston, February 24, 1918. Reprinted from *Social Hygiene*, Vol. IV, No. 3.

who for no fault of their own have had this curse laid upon them by the sins of others and by the neglect of society to take action.

What interests us today is, however, the question of the War. How can we let these diseases wage their warfare against the strength of soldiers, sailors and citizens, and not count ourselves slackers or traitors? How can we as patriots allow the whole people to be in danger of infection, weakening the whole body politic in physical strength, in morals and character? What waste of time to save food and money, to cheer our sons off while these diseases lie in wait for them! Overwhelmed as our people are with new problems and multiplying campaigns, this problem must be met if we are to win the war: it is a military problem.

This is the time to meet it, for our compulsory service system gives the first real opportunity for exact statistics. This is the time, for even though the Army and Navy may be clean, the whole people, the munition workers, the ship builders, the mill people, every one is in the service: their whole vitality is needed. This is the time, for when peace comes the competition of nations for trade, commerce, and leadership will be on, and success will come only to nations whose people are strong in physique, clear in brain and sound in character.

Clear that the day for action has come, we now take up the study of the subject and the program.

First, a word of history, for it is interesting. Until 1493 Europe had never been touched by syphilis; in 1494 and 1495, parts of Europe, Spain, Italy, and France were scourged with syphilis. This is strong evidence that the disease was brought back from the West Indies by the crews of Columbus and of succeeding ships. The disease, finding virgin soil in Europe, was rampant for a while; and then in the voyages of commerce and adventure was carried throughout the world. The Cross, the sword, and this curse went together.

How are these diseases passed on through the people? Chiefly through sexual intercourse; one person infected ever so slightly infects the other, and no one can tell how lightly or severely.

Syphilis also passes from one to another by contact with those infected, an abrasion of the lips, for instance. Think of this medical report: at a game of boys and girls with kissing as a for-

feit, six girls went home infected with syphilis from the lips of one boy. Hence the danger of common drinking and eating utensils. More infectious even is gonorrhea, for that quickly affects the eyes; a common towel, touching the eye with an unclean finger is enough.

Through inheritance. The infection of either parent is enough to carry the curse of syphilis down to the innocent child, even to the second and third generations.

Other methods of propagation by the score you may find in the books and physicians' experiences, but sexual intercourse is the one great outstanding method of transmission.

Some one says that the publication of these things may create a panic: everyone will imagine that he has the disease; many will be made unhappy by the discovery that they do have it. Have we not troubles enough now?

If a panic must be raised, let it come: better panic than defeat or death. In the long run, however, panics are due to suppression of facts, to secrecy. Thus the imagination is aroused and people dread the unknown. Publicity is the best preventive of panics.

War has always brought a fresh outcropping of venereal diseases; hence they have been thought of as especially army and navy diseases. There is reason for this, too. Masses of men trained to fight and kill have the brute forces brought to the front; away from home and good women, they are free from the conventionalities and oversight of society and home. Under the monotony of training and the heavy stress of battle, the nervous reactions are almost overwhelming. In masses of men there are a certain number of low-minded and low-living brutes, and they make themselves felt in camp.

The tradition too that a certain number of low women always have followed the camp, and always will, is strong; and the assumption on the part of officers that a certain percentage of men have got to have women has some foundation in experience.

Thousands on thousands of patriotic fathers and mothers have therefore watched their boys go into camp, and have followed them in imagination with anxious, very anxious forebodings. Even wives let their husbands go, trusting them, but with forebodings of the possible.

My purpose in this lecture is to state the facts to these fathers and mothers,

and to point out to them and to all citizens so far as I can the path of action along which the facts lead us. My message is one of great hope.

For brevity I shall use the word "disease" for the group of venereal diseases; and the word "army" for all the military and naval forces of the country.

The Army comes from the people, and in physique and character is the embodiment of the people. The Army after war returns to the people. There is therefore such close interplay of Army and society that they cannot be studied separately. Hence my study will at each point take up the Army and then society.

How prevalent is the disease in the Army? First a few facts of a few years ago by way of comparison.

In the various leading armies there were per thousand soldiers afflicted with the disease:²

1906	Germany	19.8
1906	France	28.6
1906	Russia	62.7
1907	Japan	37.6
1917	Great Britain	68.4
1907	United States	167.8
1909	United States	196.99

No wonder these figures brought alarm. Since then, and especially since the opening of the European War, the Medical Departments of the Army and the Navy have attacked the problem with determination, skill and high purpose, so that today the Secretaries of the Army and Navy, the Surgeons General, the staff and officers are bringing to the problem the forces of science, medical skill, discipline, and social service.

With what disappointment, therefore, you will listen to these figures of our Army showing the computed annual rate of admission for venereal disease per 1000 men, based on reports to the Surgeon General for the twelve-week period, September 21 to December 7, 1917.³

Of the 1,000 men in our Army there were afflicted with disease:—

Regular Army	88.0
National Guard	115.2
National Army, composed largely of drafted men direct from the people	162.4
An average of	121.9 ⁴

May I point out to you incidentally that while 121.9 was the figure for this disease, the total figure for pneumonia, dysentery, typhoid, paratyphoid, malaria, meningitis, and scarlet fever was only 25.7.

Why is it that with the great activity and skill of the Medical Department these figures should be so large, so alarming? Note the time during which these figures were taken,—the twelve weeks when the Army was absorbing great masses of citizens.

Inasmuch as the newly discovered cases, whether old or new infections, were being reported as the "new cases" during this twelve-week period in the National Army of drafted men, these figures should not be compared with either the National Guard or the Regular Army. However, the National Army, more than either of the others, is a cross-section of the physique and character of the men of this country. Of this typical cross-section based on an annual rate for this twelve-week period, 162 were diseased out of every thousand men.

Let me now give you some suggestive figures of the Army during two weeks.

The first week, ending September 20, 1917, there were admitted to sick report for venereal disease of every 1,000 men in the Army distributed as in the three main divisions:—

National Guard	2.9
National Army	7.4
Regular Army	1.5
The second week, twenty-six weeks later, on March 29th, after the men had been under military discipline:—	
National Guard	1.0
National Army	1.3
Regular Army	1.6

To these conclusions we are driven:—

1. The drafted men, typical of the

² The rate in the American army to-day is given in the foot-note on page 513.

³ With the application of the selective service draft, the army changed its policy from rejection of all applicants with venereal disease to acceptance of all men thus infected who were not hopelessly crippled or unfit for any military service.

⁴ See foot-note 5, p. 513.

community, have a far greater percentage of the disease than the others.

2. Under military discipline and methods of repression and prevention the number of the diseased decreases.

3. Under the conditions of camps in this country the boys and men are far safer from disease than in their own home towns and cities.

4. The high purpose and determination of the medical service and of our military leaders give strong assurance that in meeting the very difficult conditions in France, a country desolate, in parts demoralized, weary of war, bereft of strong men, full of chivalric and self-sacrificing women ready to show their gratitude to America, the young men of our Army will as a whole be held to loyalty, purity and health. And so far as I can get figures and impressions from personal letters, I believe that even there the American boy is safer from disease than in his home city. The time has now come for society to turn upon itself with alarm. For fathers and mothers, for all citizens to look to the base of supply of venereal diseases, our own streets and homes. "Physician, heal thyself."

I will not harrow your feelings any more with the awful tragedies at our doors. I am only a layman. Read the reports of experts, Osler, Rosenau, Biggs, Morrow, Vedder, Exner, and a score of others. Study the records of your poor houses, insane asylums and jails, your orphanages and hospitals: talk with your physician, though professional honor prevents him from telling you all. And note that the disease permeates every class in society, especially the poorest and the richest.

If we at home are to start and carry on a warfare against this disease, we may turn to the Army for our principles and methods so far as we can use them. The first and deepest reason for the success thus far attained is the high purpose and the determination of the men who have the fight in hand. They know better than we do the tremendous conservatism which army life brings with it. What has been, must be, says the conservative soldier. "Men must have women, you can't help it." "You cannot put out of business the oldest profession in history, prostitution." "Disease of course, it has always been. You may do something to check it, but you can't be too sanguine."

But the modern soldier knows that to make an effective army the day of

swash-bucklers, of drink, and loose women has gone by. The facts, military and medical, are against them: and each year sees that class dying off.

The Army regulations of today are in all questions of morals pitched upon a very high note: the soldier's character as well as his physique is a serious matter to his officers. The whole atmosphere of the camp is that a man who falls under the disease has been untrue, disloyal to his comrades—and that brings many to a better mind and life.

What are the definite means of prevention of the disease in the Army?

1. See the man that has the disease and keep a keen eye on him. To do this every man entering the service undergoes a thorough examination and afterwards a biweekly inspection. When necessary, the Wassermann blood test is given and in the course of the year, so far as practicable, every man will receive this test. Then if he is admitted to service and is also infected, he is, so long as he is a danger to others, isolated in the venereal disease hospital, and when release from hospital is safe, he is followed up until his cure is as certain as is possible: and even then his record stands for the future. If this man and all men could be held in camp all the time, they could be kept from infection. But on leave they must go outside of the discipline of the camp and into society. There is the danger of infection.

2. Hence the prophylactic treatment. This perhaps does more to cut down the numbers of infected men than any one cause. It is as radical as it is effective. Every man returning from leave who has been in danger of infection must report immediately to his medical officer and receive prophylactic treatment.

If this is given within a certain time after the possible infection, it is a sure preventive. Hence any man who has the disease is liable to be court-martialed on the ground that he did not report. Thus reporting is really very general.

Combined with this, are the shame attached to the exposure to infection, the disgrace of the venereal ward, the rebuke and advice of his officers, and the loss of pay. In the hospital he receives the most skillful treatment, the use of salvarsan and other modern methods: for the Nation is paying the costs, and he must get back into the ranks at the earliest safe date.

Twice a month every man in the ranks is thoroughly inspected for disease or physical defect, and if there are any symptoms of venereal disease, he is watched and treated.

3. Next to this medical treatment—some would say superior to it—is the character and force of the commanding officer of the camp; for from him the staff and regimental officers take their cue.

Under the present regulations the statistics of the health department will show with practical certainty the character and force of the commander. Camp conditions differ of course; some are near low-toned towns and cities—some away from all population. Allowing for these, a division general can by a study of the medical reports know whether the camp commander is worthy of his post. And if he is not, the public opinion of the Army as well as the higher officials will, if true to themselves, relieve him of his post.

4. This nation is now entering upon a great and most interesting experiment based on a sound philosophy and social experience. The best fighter is the normal man trained in body, mind, and character to the highest military efficiency. Men to remain normal require a certain amount of variety of interest, change of thought and exercise, play, books and society. In Christian armies religion has always been recognized. It is being supported at fresh points.

Every citizen is so familiar with the principles and methods of the camp activities that, I need say no more. The most radical move is the presence of women in the camp. Instead of the camp followers of old, we now have women, strong, mature, tactful and attractive, in camp, canteen and hostess house. A letter from a landing port in France is before me. "I wish," the writer says, "the people at home could see the boys' faces brighten as they come off ship and see one American woman waiting there to greet them. It gives them just the right start in this strange life."

These facts of the Army give me the message of hope to society. Under military discipline, with high purpose and medical skill, the disease can be prevented, cured and stopped—not in a day or a decade, but the facts show that under certain conditions and character it can be done.

The vital question for us is: Are we ready to support to the full this pro-

gram to lessen and in time eradicate the disease? Is society going to help or obstruct?

The Army comes from society: the recruits have shown the condition of society. The danger is not in the Army but in the city, not so much in France as in the industrial town and country village. I need not repeat the facts. If we are to support the Army and win this war, there has got to be a tremendous cleaning up of ourselves, our own neighborhoods, our streets and theatres, our hotels and resorts. Yes! Education and warning must enter the homes of the innocent for their protection. First the people must have the facts. The great engine of publicity is the press. But they will not give the facts: they claim that the people will be offended at them.

I challenge the newspapers of this country, those with great circulation, to place upon their front page not two or three startling statements with sensational headlines, but the figures that I have given or such a succinct statement of facts as the Medical Departments of the Army and Navy are ready to give them, revealing the conditions of society in relation to the Army. It is a war question, as vital as food and fuel. They say that the people do not like such facts: they offend their taste. Let the press try the people.

It is time that the lid be off and men and women meet this problem as they have met diphtheria and tuberculosis. Of course there is a difference. People protest that "this disease touches sexual problems and questions of morals: the finger of scorn will point at the victims. Doctors cannot report their cases to the public. We are not an army." No, we are not, but must we therefore do nothing and continue to poison our Army? We are told that if people begin to talk about such things, it will lead to improprieties.

People are talking: you are talking: I am talking: our boys and girls are talking: the stage is talking. Why not come out into the open, and let the talk be healthy, sane, medical, and practical?

What now can society, which has not the discipline of the Army, do to protect itself and the Army?

First, I have said, publish the facts. The first thing is to get them: thus far we have little more than estimates, good guesses on the part of experts as to society's condition.

A few states are pointing out the path, and as Massachusetts is the latest, I select that for our study.

In December, 1917, by action of the Public Health Council, gonorrhea and syphilis were added to the list of diseases declared dangerous to public health. Think of it, our own state, only two months ago!

The next problem is how to spot the infected person, the carrier of the disease, to prevent him from being a source of danger. For the object of the program is not punishment or publicity but the safety of the community through the cure of the infected. If physicians are compelled by law to report the names of infected persons, many of these will keep away from physicians and thus be a menace to society. Hence the state by a certificate system receives from the physician a number which will always identify the patient, the physician holding the name in confidence. The physician or his successor, if the patient change doctors, is held to account for the patient whose name, however, is given to the Board of Health if he evades the law. The reports are made to the State Board of Health, not to the local board.

Establish "approved clinics" throughout the state, where adequate treatment may be had, free to the poor—a small charge as a rule. The purpose of these clinics is to stop the disease and make the patient harmless to others.

Follow-up work by social workers from the clinics. The building of hospitals for venereal diseases.

Of what use is it to treat a thousand prostitutes or a hundred infected tramps and send them back onto the streets without the cure and upbuilding which a hospital gives? We might as well collect poison, make it into pills, sugar-coat them and throw them to the crowd, as to treat and not cure such people and send them back to the street. So much for the medical side.

As to the social methods. The first aim is to break up the alliance between prostitution and alcohol. Every expert that I have read, every medical officer that I have talked to, every officer of the Army—one of the last was General Leonard Wood—says the greatest obstacle to the suppression of venereal disease is alcohol. Stop the men drinking, and you have won more than half the battle.

The Government has acted to protect our soldiers and sailors. Why should not the same protection be given to our munition workers, our shipbuilders, and the whole people? I say no word here about Constitutional Prohibition: whether in great industrial states more or less alcohol may be drunk under that form of prohibition allows of differences of opinion. But of this I am clear, that during the War the same protection should be given all the people as is given our soldiers and sailors: and I am confident that the War motive which supports the enforcement of our Army would support the enforcement for the whole people. Meanwhile, so long as medical officers and experts say what they do of the immediate relations of alcohol and venereal diseases, I believe that it is the patriotic duty of every citizen to do what he expects the man who is giving his life for him to do,—abstain from alcohol.

Whatever the law is on the subject, are we as a people ready to act upon that voluntary action? Shall we help or obstruct the Army?

Other social efforts follow. Of the highest importance, the organization for social service and repression of vice by all the communities about the camps, a clean five-mile zone and more if necessary. Repression of street solicitation, police and reformatory action; rehabilitation of the prostitute; improvement in living conditions, athletics and all those influences which go to the building up of healthy bodies and sound characters.

Three definite pieces of work are vital:—

1. Probably fifty per cent of the prostitutes are sub-normal mentally or in will power, some really feeble-minded. The tremendous work of protecting this great mass while still children is an immediate duty. And a large percentage of the diseased boys and men are sub-normal also. Thousands of these of both sexes infect the strong and normal: thousands of sub-normal children are born of these, and the vicious circle, demoralizing the people and costing the nation millions on millions of dollars, continues its round because we do not want to face the facts.

2. The great sources of supply of the thousands of open and clandestine prostitutes is the young girls with easy-going, careless parents who have no thought of leading their children to better things than they can find on the

street and in the parks. Silly, and fond of fun and admiration, a man attracts them, and once fallen, sometimes through ignorance, sometimes through a temporary affection, many of them are within a year or two diseased, demoralized, practically outcasts of society.

No police or reformatory or house of mercy will correct these conditions. The responsibility falls upon the homes, the Church, the schools and public opinion. When will the mothers who proudly send their boys to the War take pride in protecting their boys by keeping their girls happy and pure at home?

Shall the women of this country turn in with all their might to study the girl problem, and in sympathy with the emotions, ideals and habits of girls, lead them to a pure and true womanhood?

3. To meet the sex problem and passions, a pure and happy home, a sound body, the habit of work, a sense of duty, and a religious faith are the best assets.

In these days, however, some sort of education in sex relations, simple, sympathetic and brief, is a necessary safeguard. How that shall be done may be answered in many ways: and because we are in doubt as to the best method, we cannot leave it undone.

All these things have a direct and immediate relation to supporting the Army and winning the War.

My last thought is this, a somewhat personal one. The greatest shock that has come to me in the study of the facts is not in the pervasive infection of the community, not the horror of the disease or even the tragedy of the results, but in the amount of immorality, the thousands on thousands who are yielding to illicit passions. If we add to those who are diseased through immoral relations the number of those who have immoral relations either frequently or occasionally and who escape infection, we count an appalling percentage. The question is not so much of national disease as of national demoralization. From such habits come, of course, frequent divorce, broken homes, parentless

children. A people so living demand a licentious stage and four literature.

The facts are interesting and enlightening as to our social conditions. Again, it is interesting to note how when the Christian Church has given up saving the heathen by threatening them with the terrors of hell, many social reformers and doctors are bringing that motive to bear upon men and women, on boys and girls, to save them from vice. The threat works sometimes—it probably brought some heathen to Christ: but as a motive power it is really very weak.

In the sex problem we are dealing with primal passions, next to self-preservation probably the greatest passion. This turbulent stream of passion cannot be held in restraint by fear of a future: it will take its chances. It cannot be checked by any such discipline as civil life offers. Even the harshest military discipline can hardly restrain the passion when in battle the brute has been roused and in victory the brute sees women.

Strength of will and character are built up by self-mastery, by good habits, and by that spiritual force which has exceeded all others in human history, religious faith. It fails a thousand times, but it still remains the greatest power. You may bring back the Army one hundred percent clean by prophylactic treatment and medical skill—fine soldiers, true to military discipline.⁶ If, however, they are only physically clean and subject to outer discipline, if they have not been built up in character and self-mastery, then when they are mustered out to break ranks they will fall into the arms of women who will infect and destroy them. A light-hearted crowd will cry, "They have fought well, let the boys have their fling." Is it for this that we seek victory?

Let our appeal to the men be high: to their honor—how can they drag even a low woman one step lower in degradation? The meanness of taking advantage of a weak-willed girl. She is the sufferer. How can a man, remembering

⁶As this article goes to press, the Army statistics indicate that the rate of venereal infections contracted after admission to the Army for the first year of the war will be approximately 20 per 1000 men in the United States and 47 per 1000 men in the expeditionary forces. The lowest rate attained prior to the present war is 91.23. The army officers say this is not due to the medical measures alone but to all the medical-social work of the past year made possible through the close coöperation of the military and civil authorities and agencies.

his mother and sister, steal the virtue of a pure woman?

The chivalry of the twentieth century protects women. Let our appeal to women be high: the sanctity of womanhood, the beauty of chastity, the holiness of marriage and childbirth.

After all, the body is the Temple of the Holy Spirit. Defilement of the body drives out spiritual power: an infected

body leads to an infected soul. The chaplain, who is the spiritual guide of the soldiers (many of whom I know to be a centre of moral and religious force) is right when he takes for his text in the barracks Christ's challenge, "I am come that they might have life," physical, mental, moral, spiritual life—"and that they might have it more abundantly."

Social Hygiene and the War

Abstract of Article* by Timothy Newell Pfeiffer, Captain, Sanitary Corps, United States Army.

WITHIN six weeks after America's entrance into the war, Sections 12 and 13 of the Selective Service Law had been passed, creating about each military or naval establishment a zone in which houses of prostitution and the sale of liquor were forbidden, and prohibiting the sale of liquor to soldiers and sailors everywhere.

Two Commissions on Training Camp Activities—one for the Navy and one for the Army—were created to keep the camp environments clean. The commissions sent investigators into the communities under their jurisdictions, to uncover the facts in regard to vice and the liquor traffic and to lay these facts before local officials with a demand for their co-operation in enforcing the law. Realizing that a law cannot be enforced without popular support, the commissions sought to win over their opponents by showing what it meant in terms of quicker victory to have a clean, healthy Army and Navy. As a result of this policy, there was little opposition to the government's first step. In the few

instances where it was found necessary to use force, the commissions did not hesitate to do so. By the end of September there was not a red light district within five miles of any important military or naval establishment in the United States. Within one year after our entry into the war, seventy-eight such districts had been closed.†

By the operation of the liquor provision of the law, bootlegging was driven into the open. Most liquor dealers obeyed the law and the few who insisted upon selling to men in uniform had their licenses revoked.

The next step was to eliminate the prostitute, as well as the place where she did business, and the bootlegger. It was recognized, also, that protective work among young girls and steps for the control of venereal diseases in the civil population were necessary.

To cope effectively with the whole problem of repression, one law enforcement division, acting for both commissions, was organized. It includes three sections: one on vice and liquor control, one

* In *Social Hygiene*, Vol. IV, No. 3 (July, 1918).

† Districts in the following Ohio cities were included in this number: Cincinnati, Circleville, Chillicothe, Columbus and Dayton.

on reformatories and houses of detention and one on women and girls.

The section on vice and liquor control works through local representatives in communities adjacent to camps, whose activities are directed by district supervisors. There are now ten district headquarters in the country, and the number is being increased as the military and naval establishments grow more numerous. The staff is made up mostly of lawyers—both civilians and Army and Navy officers.

The work of the section on reformatories and houses of detention is to develop places of custody and training for women and girls whose presence near the camps is a menace to the health and morals of the men in the service. The section received an appropriation of \$250,000 from the war emergency fund, and is extending financial aid on a "fifty-fifty" basis to states and communities for the development of reformatory facilities. Most of its work has been done in the South, where the need is greatest. Where facilities were found already in existence, as was the case in Virginia, the work is being enlarged and standardized. The acceptance of Federal aid by a state or community entails Federal supervisory regulation of the institutions established or helped.

The primary objects of the section on women and girls are to protect women and girls in communities adjacent to camps and to establish venereal disease clinics. The section has women district supervisors whose districts coincide with those of the section on vice and liquor control and who work in close co-operation with the representatives of that section. Women fixed-post workers are

stationed as local representatives of the section in communities adjacent to camps. Personal aid is given in rehabilitating young girls who have committed their first sex offenses, thus cutting off the supply of prostitutes. The fixed-post workers also strive to co-ordinate local agencies working in behalf of women and girls, as well as to improve laws governing dance halls and motion picture theaters, to secure better lighting and policing of parks and to bring about the appointment of Travelers' Aid workers and police-women. They have been instrumental in obtaining detention homes and venereal clinics for many camp cities.

The division of law enforcement works in close co-operation with the Department of Justice. The Army and Navy intelligence bureaus, the American Protective League and the state councils of defense have also aided the division. Several states have appointed state commissions to aid the Federal commissions.

The Commissions on Training Camp Activities have a social hygiene division with educational functions. This division has been instrumental in stimulating civilian co-operation with the commissions in their work of repressing prostitution.

The law enforcement division is not a police agency, the enforcement of Federal law being a function of the Department of Justice. The division is the agency through which the Secretaries of War and of the Navy act in making effective the policy of the War and Navy Departments with respect to the repression of prostitution and illegal liquor traffic. The division neither apprehends nor prosecutes the offender, but concentrates its attention upon municipal conditions

which condone his activities. It brings pressure to bear through publicity, the placing of a military ban upon a recalcitrant community or the direct application of Federal law. Coercive means are employed only as a last resort, efforts first being made to obtain voluntary action by municipal officials, before whom the evidence, carefully collected from every available source of information is laid. In general a commendable spirit of co-operation has been displayed by local officials.

In stimulating the enforcement of law by local officials, the division's representatives have found it necessary to bring about a spirit of co-operation between sheriff and police, police and courts, civil and military police, etc. Difficulties in securing evidence have been brought about by the inadequacy of local police forces and of sheriffs' staffs of deputies, and by the lack of funds and of trained men for military police work. Recently the commissions have put funds at the disposal of camp commandants for use of the military police and more attention has been paid by the military authorities to the selection of men for service in the military police.

Early in the present year the regulations adopted in accordance with Sections 12 and 13 of the Selective Service Act were strengthened by revisions which made it a crime to take or offer to take a person to, or offer to receive a person into, a place for immoral purposes within one of the five-mile zones, or to enter or reside in a house of prostitution, or to give or serve, as well as to sell, liquor to soldiers and sailors. The application of the term "military camp" was broadened. The con-

viction of bootleggers has been made easier by the revised regulations, since it is now unnecessary to prove a sale. It has been found advisable, however, to conduct prosecutions in local courts wherever possible, in view of the fact that many Federal courts do not sit continuously in any one place. Deficiencies in this method of procedure are the frequent failures of police judges to convict, or to impose no other penalty than a fine, which operates merely as a license to the prostitute or bootlegger, and the inadequacy of many local and state laws. Inadequacy of facilities for the detention of prostitutes has also interfered with efficient law enforcement.

Legislation to provide state reformatory facilities has been supported by the commissions in states whose legislatures have been in session this year, and state and local funds for reformatories have been supported by Federal grants. Other legislation which has been supported relates to the injunction and abatement of houses of prostitution by civil process, to the modernizing of codes with respect to the crime of prostitution, to the requirement of licenses for hotels and rooming houses and to the prevention, care and treatment of venereal diseases. State boards of health have been aided in drafting regulations making venereal diseases reportable and persons infected therewith subject to quarantine. Legislation restricting the liquor traffic has been supported, the War and Navy Departments taking the position that while they cannot interfere in any local election, they can state unequivocally their gratification at the elimination of the liquor traffic in communities near which soldiers or sailors are stationed.

Influenza Increases Child Mortality Heavily in October

THE heavy influenza death total in October gave that month the highest infant mortality recorded up to that time for any month in 1918. With the October figures added in, the "baby-saving" statistics for the Children's Year for the first time showed a net loss as compared with the average period for the corresponding number of months in 1916, the year upon which the assignment of quotas for "baby-saving" was based.

The totals, by months for 1918, of deaths of children under five years of age in the State, are as follows, up to November 1:

January	1,237
February	1,204
March	1,380
April	1,263
May	1,117
June	841
July	1,038
August	1,698
September	1,503
October	2,147

Total, ten months..... 13,428

For the sake of comparison, it may be noted that the totals for the entire year in 1917 and 1916 were, respectively, 15,373 and 15,349. For the year's total in 1918 to show any reduction, it would be necessary for November and December to average only about 1,000 deaths each—a situation which is of course not to be expected with the influenza epidemic still in progress as it was during those two months.

The October total as given includes 683 deaths attributed to in-

fluenza, 207 to broncho pneumonia and 145 to lobar pneumonia. In addition to these deaths, most of which were doubtless due to the epidemic, there were 231 deaths from diarrhea and enteritis, the summer scourge of babyhood. Diphtheria in October caused 25 deaths, whooping cough 24, measles 4, scarlet fever 6, tuberculosis 7, typhoid fever 3, and syphilis 7.

Compared with the seven months' average of deaths in 1916, the first seven months of the Children's Year resulted not in any saving, but in a net loss of 653 babies. The loss for the single month of October was 868—that is, 868 more children under five died in October than in the average month of 1916. (The year's total and therefore the monthly average for 1917 were practically the same as for 1916, it will be noted.) The first six months of the Children's Year (April to September, inclusive) produced a saving of 215 babies; the quota to have been saved during the same period was 2,255, so even before the beginning of the influenza outbreak, Ohio, while achieving some reductions in infant mortality, yet was falling far short of her assigned quota. Much of this shortage, study of the statistics shows, is to be attributed to heavy losses in a comparatively few counties. Champaign County, for example, which had 45 deaths under five years of age in the entire year of 1917 and 52 in 1916, had in the half-year under consideration a

total of 66, of which 43 occurred in the single month of August. Other serious losses were registered in Allen, Clark, Clinton, Columbiana, Coshocton, Franklin, Mahoning, Scioto and Trumbull counties.

On the other hand, twelve counties had reductions in death totals equal to the quotas assigned them. These twelve were: Brown, Delaware, Fulton, Hancock, Hardin, Knox, Licking, Madison, Morgan, Noble, Pike and Preble. Lucas, which came nearest among the larger counties to saving its quota, achieved a reduction of 116 under the 1916 average; the county quota was 133. Even with the October total included, Lucas County still has a seven months' saving of 54 to its credit.

Among the other larger counties, Cuyahoga during the first six months of the Children's Year saved 116 of its quota of 435 babies, Hamilton eight of a quota of 178, Montgomery 51 of a quota

of 71. Franklin County, with a quota of 90 lives to be saved, lost 28 more babies than in the average six months of 1916.

Savings by months for the entire State are as follows:

April	16
May	162
June	438
July	241
August	Loss 419
September	Loss 224
October	Loss 868

Total, 7 mo..... Loss 653

The appended table gives the monthly death totals of children under five in Ohio for August, September and October of this year, the seven months' total for the months from January to July, inclusive, and (for purposes of comparison) the 1916 and 1917 year totals. The monthly totals from January to July, which are given here as a lump sum, were published in the September-October OHIO PUBLIC HEALTH JOURNAL, p. 410.

DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE IN OHIO FROM
JANUARY TO OCTOBER, INCLUSIVE, 1918, AND FOR 1917
AND 1916, GIVEN BY COUNTIES:

County.	Deaths, 1918.					Deaths, 1917.	Deaths, 1916.
	Jan.-July, Incl.	Aug.	Sept.	Oct.	Total, Ten Months.		
Total, State.....	8,080	1,698	1,503	2,147	13,428	15,373	15,349
Adams	29	8	4	1	42	54	65
Allen	116	37	19	16	188	155	170
Ashland	16	2	2	5	25	28	42
Ashtabula	72	15	19	10	116	143	163
Athens	74	18	26	14	132	136	148
Auglaize	23	6	7	2	38	50	59
Belmont	160	45	47	38	290	373	413
Brown	17	2	5	3	27	37	42
Butler	141	28	20	65	254	265	258

DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE IN OHIO FROM
JANUARY TO OCTOBER, INCLUSIVE, 1918, AND FOR 1917
AND 1916, GIVEN BY COUNTIES—Continued.

County.	Deaths, 1918.					Deaths, 1917.	Deaths, 1916.
	Jan.-July, Incl.	Aug.	Sept.	Oct.	Total, Ten Months.		
Carroll	18	1	7	2	28	18	28
Champaign	30	42	10	9	92	45	52
Clark	111	19	26	32	188	180	177
Clermont	34	6	2	4	46	41	66
Clinton	25	34	4	17	80	41	38
Columbiana	145	55	15	29	244	255	252
Coshocton	24	28	7	8	67	40	70
Crawford	26	9	6	5	46	89	57
Cuyahoga	1,507	296	249	405	2,457	3,292	2,972
Darke	41	6	8	9	64	77	87
Defiance	26	1	7	5	39	43	42
Delaware	21	6	3	4	34	40	58
Erie	27	6	8	11	52	70	53
Fairfield	53	15	9	20	97	80	68
Fayette	34	8	2	8	52	68	48
Franklin	384	68	61	87	600	619	609
Fulton	15	5	3	5	28	46	47
Gallia	23	14	4	5	46	41	57
Geauga	17	2	2	2	23	21	23
Greene	40	16	8	12	76	66	68
Guernsey	55	17	24	25	121	115	123
Hamilton	751	117	90	172	1,130	1,096	1,218
Hancock	35	4	5	8	52	59	78
Hardin	38	1	10	14	63	62	90
Harrison	22	5	2	4	33	29	30
Henry	24	4	3	6	37	38	34
Highland	27	3	6	5	41	52	53
Hocking	41	4	9	13	67	56	67
Holmes	21	3	1	3	28	44	35
Huron	19	6	12	18	55	62	56
Jackson	51	4	12	18	85	115	87
Jefferson	214	31	36	52	333	305	371
Knox	29	3	5	13	50	38	59
Lake	24	8	5	10	47	47	58
Licking	52	8	7	34	98	111	121
Logan	21	1	9	1	32	43	48
Lorain	129	29	22	36	216	250	305
Lucas	360	74	80	115	629	789	895
Madison	17	6	4	8	35	40	52
Mahoning	523	94	79	108	804	945	867
Marion	57	9	15	12	93	100	101
Medina	28	2	5	3	38	34	50
Meigs	31	5	6	10	52	54	46
Mercer	36	6	8	2	52	66	56
Miami	46	10	8	15	79	105	76
Monroe	20	3	2	2	27	43	37
Montgomery	220	46	40	92	398	484	486
Morgan	8	2	3	4	17	24	20
Morrow	10	1	4	4	19	20	29

DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE IN OHIO FROM
JANUARY TO OCTOBER, INCLUSIVE, 1918, AND FOR 1917
AND 1916, GIVEN BY COUNTIES—Concluded.

County.	Deaths, 1918.					Deaths, 1917.	Deaths, 1916.
	Jan.-July, Incl.	Aug.	Sept.	Oct.	Total, Ten Months.		
Muskingum	67	8	9	37	121	118	137
Noble	22	3	2	5	32	50	72
Ottawa	31	4	4	7	46	49	47
Paulding	21	5	5	7	38	30	42
Perry	47	11	11	8	77	91	85
Pickaway	44	7	3	24	78	63	72
Pike	22	0	1	11	34	41	43
Portage	38	3	11	5	57	67	76
Preble	15	2	0	4	21	45	27
Putnam	38	4	8	9	59	64	60
Richland	54	11	11	26	102	103	103
Ross	61	12	6	18	97	102	105
Sandusky	40	5	6	9	60	50	74
Scioto	165	25	38	53	281	285	251
Seneca	47	5	9	12	73	96	74
Shelby	36	1	8	8	53	51	66
Stark	195	52	36	23	306	451	422
Summit	431	122	101	94	748	962	787
Trumbull	114	36	38	32	220	217	226
Tuscarawas	67	13	13	24	117	130	141
Union	17	4	6	1	28	33	43
Van Wert	24	7	2	4	37	36	45
Vinton	20	5	5	7	37	38	31
Warren	27	5	9	13	54	49	53
Washington	58	10	10	9	87	76	98
Wayne	42	3	8	10	63	78	72
Williams	21	3	5	5	34	32	40
Wood	57	4	16	14	91	125	104
Wyandot	19	1	4	4	28	29	29

ISOLATION IN MEASLES

(Partial abstract of an article on "Measles," by Bernard W. Carey, M. D., in *The Commonwealth*, Massachusetts State Department of Health.)

Besides isolation of the patient, measles prevention demands careful watch over all possible exposures, temperature being taken daily and the child being isolated immediately if a rise of one or more degrees is noted. This will insure isolation during the highly infective early stage. If school is

in session all children should be kept in school, under the same supervision as to temperature and with visits to the homes of absentees.

Throat cultures should be made in all cases, and the "clean" cases should be isolated from those having hemolytic streptococci in the throat, these being the organisms which recent studies demonstrate to be the causes of the serious complications which often follow measles.

Groeniger Relates Experiences With British in Palestine

IN a letter from Jerusalem under date of October 17, William C. Groeniger, former Director of the Division of Plumbing in the State Department of Health, now a captain in the American Red Cross Commission attached to the British expeditionary forces in Palestine, writes as follows to James E. Bauman, Deputy Commissioner of Health:

"Have written you several letters and sent you several postals from different parts of the world through which we traveled on the way over here, but the tin fishes most likely have got them, as well as any you have written. Letters from you 'Mafish', which means in Arabic 'There is none.' So I am going to try again and trust this reaches you in good time.

"We traveled 15,000 miles in ninety days, reaching here about June 15. I have been on the jump ever since, working day and night, Sundays and week days. We are installing sanitary equipment, debugging, de-lousing and fighting the *Anopheles* and other brands of mosquitoes, flies, fleas and other numerous pests. We have fitted up two hospitals, a dispensary (including children's hospital), a laboratory which would make Van Buskirk open his eyes, a laundry, a hospice (which houses sixty of our officers and has seven general toilet rooms, seven bath rooms, with hot and cold running water), two industrial establishments which furnish employment for six hundred women engaged in weaving and making garments for the

refugees, two orphanages (with the third under way) and several refugee hotels. We have irrigated several small plots, fitted up our administration building, organized a blacksmith shop, plumbing and pipefitting shop and carpenter shop, and have plans for a machine shop and a general garage that will house the greater portion of our thirty ambulances, trucks and touring cars. In addition to this we have built several sterilizers, put several flour mills into operation and cleaned and repaired many large cisterns that hold as much as 30,000 gallons of water. Almost every foot of ground in Jerusalem is catchment area for some cistern; cisterns 50 x 70 x 25 are very common. In the Russian compound, where most of our activities are centered, there are twenty such cisterns. All of the buildings that we have taken over had to be limewashed and fumigated and in many instances we have gassed the 'b.-b.'s,' which seems to be the quickest and best way of exterminating the bugs, sandflies and hard-back fleas.

"Malaria fever, some typhus, relapsing fever, trachoma and tuberculosis are prevalent. Several of our unit are now in Tiberius fighting an outbreak of cholera. The typhus season is rapidly approaching. The average native—particularly among the refugees—is lousy.

"Our transportation department has moved thousands of sick and wounded Turkish and German prisoners and a great number of Tommies. Most of the Turks are

in a bad way. One of our large White trucks picked up ninety-two that had fallen by the roadside. Some of these poor devils died after reaching the hospitals.

"On the thirteenth day of September your humble servant was made director of engineering service, including sanitary, mechanical, electrical, building construction and transportation, and was also elected to the executive council which has control of the various activities. Some job, but I am gradually effecting an efficient machine that will do the work. Our greatest handicap has been in securing skilled native mechanics. However, my previous practical experience has stood me well in hand and I have been able to teach them the modern methods of America.

"A few weeks ago we were very close to the lines and could hear the roar of the guns and see the flashes at night. Since then, however, the world has been thrilled with Allenby's wonderful accomplishment and the line has been moved 150 miles northward. I was privileged to pass through No Man's Land shortly after the offensive began and got as far north as Nabulus. 'Jericho Jane,' one of the large enemy guns, was silenced and there are many interesting stories to be told of the great victory, which seems almost impossible if you have seen the country through which the troops had to pass.

"The great work being done by our boys on the Western front is very much appreciated in this part of the world, and has added much to the morale of the troops here. Everybody here believes that the war will be over shortly. Here's hoping!"

The Health Department's Duty

To conserve the public health is the duty of every health department in the land. No matter how many physicians there may be in a community, there must be some one, or some department, vested with legal authority to act in matters pertaining to the health of the masses. The wisdom of placing such authority in the hands of competent persons is shown every day. One frequently reads of some serious epidemic in congested communities, and were it not for legal authority vested in health boards, the ravages from disease would be much greater. It is the duty of the physician to diagnose diseases, and if they be of a communicable nature, the law imposes upon him the duty of reporting such to the health authorities, who, by virtue of their office, make regulations governing the isolation of such persons, who, if allowed to roam about at will, would become a menace to the health of the public.

To conserve the health of the public is the most essential feature of health work today. True, there are other matters connected with the work which are obligatory, but the looking up of nuisances, the regulating of stables and kindred affairs are minor factors in the great problem of the present time. It has been said that sanitary instruction is even more important than sanitary legislation. Education is a big factor in obtaining results, and yet instruction must be measured with a certain regard to legal requirements. — *Public Health*, Michigan State Board of Health.

Chlorine and Safe Drinking Water

CHLORINE in the treatment of public water supplies occupies a very important position. It has its proper field of usefulness and its limitations which must be recognized. It is particularly applicable to the treatment of a clear, sparkling water which is only mildly contaminated, such as a ground water supply, or the effluent from a filter plant. When properly applied in such cases, chlorine may be counted upon to accomplish complete safety of the water without producing any deleterious effects.

It is frequently necessary to apply chlorine or one of its compounds to a public water supply which is not of satisfactory physical quality. The use of chlorine in such instances is only a temporary expedient to be employed pending the provision of some other form of treatment such as filtration. However, chlorine serves a very useful purpose, even under these conditions. Due to the unfavorable quality of the water treated, the efficiency of the chlorine may not be perfect, larger quantities may be required and at times objectionable tastes may be produced, but on the whole, the treatment will accomplish a marked degree of improvement in the water.

The benefits resulting from the chlorination of contaminated water supplies are unquestioned. In practically every instance this method of treatment, either alone or in connection with filtration, has accomplished a marked reduction in typhoid fever, which is the real measure of the improvement se-

cured. To accomplish this reduction of typhoid fever and this consequent saving of life, it may be necessary at times to treat the water to an extent to produce tastes, particularly when chlorination is the only form of treatment used. No thoughtful person will question the superiority of the treated water, which has been made safe for drinking purposes, over the untreated supply, which is capable of causing typhoid fever, even admitting that the treatment has introduced an unpleasant taste in the water.

When the treatment of a municipal water supply by the application of chlorine is undertaken, it is not at all unusual to encounter popular protest against this procedure. The wave of objection is kept in motion usually by agitators who are not informed as to the nature, objects and results of this method of treatment, or even the necessity of correcting the contamination of the public water supply of their community. Arguments thus presented, illogical as they may be, often result in general complaints against the alleged evil effects of the treatment, even before the treatment is actually started, so prone is the average mind to accept without question misstatements of this nature.

Persons inclined to complain against real or imaginary effects of the chlorination treatment of water will do well to pause and weigh the resulting beneficial effects before they assert the worthlessness of the treatment and protest against its use.

Epidemiological Investigations by Health Officers*

By Edward S. Godfrey, Jr., M. D., Epidemiologist, New York State Department of Health

The control of communicable disease depends primarily upon the local health officer, because the prevention of outbreaks depends upon the *prompt* control of the early cases. No centralized authority can do more than aid in the suppression of an outbreak already started.

As with everything else there are two things necessary to successful accomplishment—knowledge and intelligent action. The health officer must know the sources of infection, the possible modes of transmission and, above all, he must know the relative frequency with which the different factors operate. While it is interesting to know that typhoid may be transmitted by blankets soiled with typhoid excreta, it is of less importance than the knowledge that typhoid is very frequently transmitted by the soiled fingers of typhoid carriers and of those caring for typhoid patients. Though smallpox may be transmitted by the clothing of a prior case, it is more important to know that in the vast majority of instances there has been indirect contact with a case. The practical application of such knowledge is that one should not be satisfied with the explanation based on an improbability until the probabilities have been excluded.

With the exception of a few diseases, most of which are rare in

this State, the common sources of the communicable diseases are human beings. They may be classified as recognized cases, cases in the early stages of the disease, the mild, the atypical and the concealed cases which are still sick (so called "missed" cases), convalescent cases, both recognized and missed, and the carriers. The relative frequency with which these sources are concerned in the spread of communicable disease varies with the disease under consideration and varies also with the measures of control applied and the diagnostic acumen of the medical profession.

Until twenty years ago it is probable that the principal source of typhoid was the recognized case, as the stool and urine of such cases were not disinfected as a routine measure and their contagious character was generally unrecognized and disregarded. Today it would be difficult to say whether the recognized case, the unrecognized case, or the carrier is the most frequent source of typhoid. Apparently the last two are the most frequent causes of explosive outbreaks, the former the most frequent as the origin of contact typhoid. However, this conclusion may be due to failure to detect carriers as sources of many of our "sporadic" cases. For example, a case of typhoid, Mrs. B., occurred

* Reprinted from *Health News*, New York State Department of Health, XIII (new series), 7 (July, 1918).

in Albany in the spring of 1917. Although the case was investigated its source was not determined. Later in the year, Dr. Sears, the sanitary supervisor of the Syracuse district, investigated a case in that district and learned that a girl belonging to the household had recently returned from Albany. She had had typhoid about 18 months before and it was while she was a member of Mrs. B's household that Mrs. B. was taken ill. An examination of her stools proved her to be a carrier. It is probable that such instances as Mrs. B's are not uncommon. Either the typhoid histories of other members of households are not obtained or their significance is overlooked.

The health officer should also have a knowledge of diagnosis, including an appreciation of laboratory aids to diagnosis, and should recognize not only their value but their limitations. He should thoroughly appreciate the fact that there are very mild atypical cases and that there are atypical cases which are very severe. Mild smallpox and mild scarlet fever are very common and the latter particularly is frequently difficult to diagnose. Mild typhoid and mild diphtheria are not infrequent and it is in these cases that the laboratory is most useful. In the clinical cases—the "typical" cases—the laboratory evidence is either simply confirmatory if positive or a warning to review critically the history, signs, and symptoms upon which the clinical diagnosis is based. There is too much of a tendency on the part of the profession to let the laboratory make the diagnosis—to assume that its findings are infallible—and this attitude is fraught with quite as much danger as the opposite one of disregarding the laboratory al-

together. Antitoxin is not given because the culture was negative; an incipient phthisis is neglected because no bacilli are found in the sputum. On the other hand, a pelvic abscess, a pyelitis or a tuberculosis may be overlooked because of a positive Widal; the history and the clinical evidence being entirely subordinated to the microscope and test tube. This is not the fault of the laboratory but of the clinician. The latter does not go far enough with his physical examination or with the submission of material to the laboratory. Blood counts and urinalyses still occupy a place in nosology and every patient who is sick enough to have a Widal is entitled to a reasonably complete physical examination. A wholesome mixture of sanity is needed with our science.

The foregoing paragraphs merely review in a superficial way some of the "high spots" in the professional knowledge the health officer needs. He also needs—absolutely must have, if he is to control the acute communicable diseases—information concerning the patient, his environment, his associates, and his family. Objections may be raised to the health officer's obtaining this information—that it takes too much time, that the families or the attending physicians object to it, etc.; but if such objections are heeded it simply means partial and ineffective efforts to control. To isolate "A," who has been reported as a case of scarlet fever, is no assurance that "B" and "C" will not contract the disease from the same source. We must find the unknown quantity X who or which infected "A" and assure ourselves that X is innocuous. When all the others who may have been infected through X shall have been dis-

covered and properly cared for, we may feel reasonably sure that further cases will not occur.

The determination of the source of infection is sometimes easy, often difficult, and frequently impossible, but it is always worth a good hard try. It is much more important than terminal fumigation, or concurrent disinfection, or even a strictly maintained quarantine. Every large outbreak is first a small one and every small one may be traced back to a single case or carrier. Though it may be less difficult to locate the sources of infection of half a dozen cases than of one (provided the source is common to all) yet it is correspondingly more difficult to control the half dozen and their contacts.

The investigation of cases for the purpose of discovering the source of infection is perhaps the least understood procedure in the control of communicable diseases. Aside from the fault that they are too frequently not even attempted the most frequent faults are that —

- 1 There is no written record made at the time of investigation;
- 2 The investigation or the record or both are incomplete;
- 3 The investigator begins with a preconceived notion of the source and bends statements to fit the theory;
- 4 Information is inaccurate;
- 5 The information obtained is not tabulated and studied from a statistical standpoint.

Unless a written record is made at the time of investigation — putting down each answer as it is given — the investigation and its resulting conclusion are apt to be most untrustworthy. An important feature of any investigation is not only the discovery of the probable source but the ruling out of other possible sources. While one

may carry the salient features of each case in mind for a time, unforeseen questions sometimes arise which memory can not answer. A complete investigation is desirable for the same reason. While it is usually advantageous in a large outbreak to see a considerable number of cases within a short space of time this should be followed by a more careful inquiry at the earliest opportunity. In the preliminary investigation we seek the possible source that is common to, say, the first ten cases and simply inquire of another ten whether or not they were exposed to this source of infection. The purpose of this, as must be apparent, is solely to insure that this highly probable source shall be taken care of promptly. However, anyone who has encountered the "show-me" attitude of the well owner, or the dairyman whose property, or the fond mother whose child, is accused of transmitting disease, will appreciate the comfort that complete written records can give. It is only by a record of the negations as well as of the affirmations that one can refute the sometimes plausible, sometimes fanciful, theories advanced by interested persons.

The written record serves the further purposes of disclosing secondary sources of infection when an outbreak is prevailing and of being immediately available for reference whenever needed. It frequently happens in "sporadic" cases that one is unable to definitely trace the source. In a few days or a few weeks another case of the same disease may be reported. A comparison of the data in the two cases may lead immediately to the correct solution of the problem.

Inaccurate information is usually the result of the inability of the

informant to remember, but not infrequently it is for the deliberate purpose of misleading. The investigator can generally determine whether it is purposeful or not, provided he discovers that the statements are incorrect. It is in order to check the more important items of information that one usually asks two or three questions along the same lines and compares the answers. For example, one inquires the date of onset of a case of scarlet fever; we are told it was on Wednesday, the 12th of the month. We ask the dates of going to bed and of the physician's first visit and learn that they were on the same day, but a reference to the health officer's record shows that the case was reported on Thursday, the twentieth, and that the case was quarantined that same day. Other incidents may then be called to mind which substantiate the later date as the correct one. Other items may be confirmed or their fallacy demonstrated in much the same fashion.

To overcome the handicap resulting from the deliberate perversion of truth, one must usually adapt himself to the circumstances before him. As an instance the following experience may be related. A number of typhoid cases had suddenly appeared in a small town, all on one milk route. The source of infection, however, could not be located. Finally the health of-

ficer, accompanied by a dairy inspector, visited the dairy farm for perhaps the fifth or sixth time. While the former engaged the family in conversation, the inspector wandered about the farm. The latter was an Irishman of no little wit and acuity and in his promenade he looked over the employees. Picking out the dulllest-looking lout among them, he approached him as he was at work in a field and asked, "Where is the sick man?" The dull one replied that the sick man was gone; but beyond the fact that he had left a week before he could give no information. However, with the information in his possession, the inspector was able to secure a complete confession from the proprietor and the case was located in a hospital in another state.

The tabulation and interpretation of data suffer oftentimes by default, sometimes through a disregard of statistical methods, or through loose reasoning. Frequently the fault lies with the data collected, which is insufficient and difficult to tabulate. This is best avoided through the use of schedules or questionnaires, the investigator having a thorough understanding of the character of the information sought. The collection, tabulation, and interpretation of data, together with a description of the forms now being prepared by the State Department of Health will be considered in a later issue.

DEPARTMENTAL REPORTS BY DIVISIONS

DIVISION OF COMMUNICABLE DISEASES.

Reported Cases of Notifiable Diseases, Ohio, November, 1918.

Prevalence.—In order of greatest reported prevalence during the month of November the notifiable diseases list as follows, with comparative figures for October given:

Diseases.	Reported Cases.	
	November.	October.
1. Influenza	53,664	51,612
2. Pneumonia, Acute Lobar.....	1,241	1,994
3. Diphtheria	462	549
4. Smallpox	434	226
5. Scarlet Fever.....	362	571
6. Gonorrhea	290	349
7. Tuberculosis, All Forms.....	256	329
8. Whooping Cough	248	307
9. Chickenpox	233	294
10. Mumps	163	125
11. Syphilis	152	142
12. Measles	150	322
13. Typhoid Fever.....	116	324
14. Ophthalmia Neonatorum	103	187

Out of a total of 57,945 cases of notifiable diseases recorded for the month of November, for no other one was a total of 100 or more cases reported.

Influenza.—It is only since October 11, 1918, that influenza has been a notifiable disease in Ohio, and a comparative study of statistics over a longer period of time is therefore impossible. Available influenza mortality statistics for former years indicate that a recurrence of this disease for the months of January and February is not improbable. Statistical reports of this disease will prove a valuable health guide for the future. The completeness of these records depends to a great extent on the faithfulness of the health officers in the discharge of their duties.

Pneumonia.—For November of this year there were 1,241 reported cases of this disease, a decrease in prevalence of 753 cases as compared with reports for last month. This decrease would indicate that one crest of the influenza wave was well past, since the unprecedented increase of pneumonia prevalence for the past two months is undoubtedly due to epidemic influenza conditions. Reported cases of pneumonia for November, 1917, were 218, little more than 17 per cent of the number reported for November of this year although representative of pneumonia prevalence for pre-influenza statistics.

Diphtheria.—The 462 reported cases of this disease for November show a decrease of 87 cases, compared with reports for October. For November, 1916, there were reported 1,271 cases and for November, 1917, 1,050 cases. The expected and customary increase in reported cases of diphtheria for this month did not materialize but it is not improbable that this increased prevalence will be shown in reports for succeeding winter months.

Smallpox.—The November total of reported cases of smallpox exceeds that of the previous month by 208 cases. The reported smallpox total for November, 1915, was 230 cases; for November, 1916, 247 cases, and for November, 1917, (under epidemic conditions), 814 cases. The increase in this month's report indicates a higher smallpox prevalence for the winter months and an indifference on the part of the public to vaccination.

Venereal Diseases.—Gonorrhea reports for the month show a decrease of 59 cases, compared with last month's report, and an increase

of 200 in comparison with November, 1917. Syphilis shows an increase for the month, compared with October reports.

Scarlet Fever.—A total of 362 cases of scarlet fever was reported for November. Reported cases for the previous month numbered 511. This indicates a marked decrease in scarlet fever prevalence, in all probability accounted for by the fact that schools were closed generally throughout the State. Scarlet fever statistics for previous years show an increased prevalence of this disease in winter. For November, 1916, reported cases totaled 939, and for November, 1917, 955 cases—almost three times the recorded number for this November.

November Reports.—The reports for this month, as well as those for the month previous, were unduly late in reaching the State Department of Health. While epidemic influenza has created abnormal health conditions throughout the State and greatly taxed the public health service, promptness and completeness on the part of physicians and health officers in making their reports will contribute to the efficiency of the service the Department extends to the State of Ohio.

TABLE 1. REPORTED CASES OF NOTIFIABLE DISEASES, OHIO, NOVEMBER, 1916-1918, WITH DISTRIBUTION FOR CITIES AND VILLAGES AND TOWNSHIPS, NOVEMBER, 1918, AND CASE RATES PER 1,000 POPULATION, NOVEMBER, 1916-1918:

	November, 1918.			November, 1917.	November, 1916.	November Case Rates per 1,000 Population.		
	Cities.	Villages and Townships.	Total.*					
All Notifiable Diseases (Influenza excepted)†	2,606	1,675	4,281	7,070	6,904	.813	1.357	1.339
Chickenpox	128	105	233	1,362	1,189	.044	.262	.231
Diphtheria	368	94	462	1,050	1,271	.088	.202	.247
Gonorrhea	248	42	290	90	128	.055	.017	.025
Measles	73	77	150	485	1,157	.029	.093	.224
Measles, German	4	19	23	47	32	.044	.009	.006
Meningitis, Cerebrospinal.	6	2	8	21	14	.002	.004	.003
Mumps	31	132	163	432	114	.031	.083	.022
Ophthalmia Neonatorum	100	3	103	121	118	.020	.023	.023
Pneumonia, Acute Lobar	681	560	1,241	264	278	.236	.051	.054
Poliomyelitis		3	3	12	18	.001	.002	.003
Scarlet Fever	216	146	362	955	939	.069	.183	.182
Smallpox	253	181	434	814	247	.082	.156	.048
Syphilis	146	6	152	68	76	.029	.013	.015
Trachoma	2	2	4	22	28	.001	.004	.005
Tuberculosis, All Forms	211	45	256	490	425	.049	.094	.082
Typhoid Fever	42	74	116	212	355	.022	.041	.069
Whooping Cough	83	165	248	590	500	.047	.113	.097
Other Notifiable Diseases	14	19	33	35	15	.006	.007	.003

*Reported cases from Camp Sherman and Wright Aviation Field included in total figures.

†No influenza morbidity statistics for comparative study.

TABLE II. REPORTED CASES, TEN NOTIFIABLE DISEASES, TOTAL CASE RATE PER 1,000 POPULATION, OHIO CITIES, NOVEMBER, 1918:

Cities.	Total Case Rate Per 1,000 Population.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis, Cerebrospinal.	Pneumonia, Acute Lobar.	Polio-myelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
Total .....	.698	1,938	373	72	6	691	209	253	211	42	83	
Akron .....	.682	62	20	3				2		14	4	19
Alliance .....	.100	2						1	1			
Ashland .....	.111	1								1		
Ashtabula .....	.180	4	3		1							
Athens .....	.268	2						2				
Barberton ¹												
Bellaire .....	.189	3	3									
Bellefontaine .....	.420	4				4						
Bellevue	2.282	14	3			10						1
Bowling Green .....	.187	1									1	
Bucyrus	1.060	10		1				1	7		1	
Cambridge .....	.142	2				2						
Canton .....	.300	20	10			1		8		1		
Chillicothe	1.197	19	13	4						1	1	
Cincinnati .....	.334	167	73	18	2			8	3	48	3	12
Circleville .....	.444	3	1					1		1		
Cleveland .....	.879	879	112	10	3	508		41	130	63	4	8
Columbus .....	.300	75	15	2				24	5	17		12
Conneaut .....	.535	5				3		1			1	
Coshocton .....	.410	5							5			
Dayton .....	.301	43	27	1		4				10	1	
Defiance .....	.272	2				2						
Delaware .....	.200	2	2									
Delphos	2.745	15	3			12						
Dover ¹												
East Cleveland .....	.828	12	2					6				4
East Liverpool ²												
Elyria .....	.950	19	4	1		3		1	10			
Findlay .....	.402	6	2			1		2	1			
Fostoria .....	.810	9	1	2				5			1	
Fremont	1.980	20				15		1		2	2	
Galion	2.085	15				15						
Gallipolis ¹												
Greenville ¹												
Hamilton	1.144	52	1			3		8	38		2	
Ironton	1.190	17	2	1		4		2			5	3
Jackson .....	.652	4	3							1		
Kenton ¹												
Lakewood .....	.697	17	5			10		1	1			
Lancaster ²												
Lima	1.170	39	6	2				31				
Lorain .....	.400	16	1					3	11	1		
Mansfield .....	.129	3	1					1				1
Marietta ¹												
Marion .....	.840	21	1			10		1	6		3	
Martins Ferry ¹												
Massillon .....	.128	2	2									
Middletown	1.159	19	2	2		2		6	3	3	1	

TABLE II. REPORTED CASES, TEN NOTIFIABLE DISEASES, TOTAL CASE RATE UER 1,000 POPULATION, OHIO CITIES, NOVEMBER, 1918 — Concluded.

Cities.	Total Case Rate per 1,000 Population.	Total Reported Cases.	Diphtheria.	Measles.	Meningitis, Cerebrospinal.	Pneumonia, Acute Lobar.	Poliomyelitis.	Scarlet Fever.	Smallpox.	Tuberculosis, All Forms.	Typhoid Fever.	Whooping Cough.
Mt. Vernon ¹												
Nelsonville	453	3						2				1
New Philadelphia	1,995	21				20		1				
Newark	256	8						8				
Niles ¹												
Norwalk ¹												
Norwood	1,763	43	1			38		1		2		1
Painesville ¹												
Piqua	276	4				2					2	
Portsmouth	495	15	8			1		6				
Ravenna	156	1				1						
St. Bernard ²												
St. Marys	332	2						1			1	
Salem	891	9	1					1	3			4
Sandusky	490	10								3	2	5
Sidney	136	1	1					1	1			
Springfield	665	35	3	22		1		1	1	4	1	2
Steubenville	735	21	4					2	12	3		
Tiffin	228	3						1	2			
Toledo	580	116	33	2		10		24	1	33	3	10
Troy	474	3	2								1	
Urbana	819	7				6				1		
Van Wert ²												
Wapakoneta	153	1						1				
Warren ²												
Washington C. H.	468	4							3		1	
Wellston ¹												
Wellsville	110	1									1	
Wooster	644	4							4			
Xenia	345	3				3						
Youngstown ²												
Zanesville	434	14	2	1				3	6	2		

¹ Barberton, Dover, Gallipolis, Greenville, Kenton, Marietta, Martins Ferry, Mt. Vernon, Niles, Norwalk, Painesville and Wellston reported no cases of the diseases listed.

² East Liverpool, Lancaster, St. Bernard, Van Wert, Warren and Youngstown failed to submit the regular summary report by date of going to press.

DIVISION OF LABORATORIES.

Summary of Activities in November, 1918.

The Division made 1,153 examinations during November, of which 927 were bacteriological and 226 were chemical. The bacteriological examinations, with their results, are summarized as follows:

Tuberculosis, Pos. 66, Neg. 182.....	248
Diphtheria, Pos. 24, Neg. 82, No Growth 6.....	112
Typhoid, Pos. 17, Neg. 47.....	64
Wassermann, Pos. 117, Neg. 273, Unsat. 12.....	402
Malaria, Pos. 0, Neg. 1.....	1
Rabies, Pos. 5, Neg. 2, Unsat. 1.....	8
Water	79
Miscellaneous	13

Outfits were distributed as follows during the month:

Tuberculosis	337
Diphtheria	201
Typhoid	157
Malaria	28
Wassermann	427
Ophthalmia	3,478
Typhoid Vaccine	3
Miscellaneous	37
Chemical Water and Sewage.....	15
Bacterial Water and Sewage.....	91
Total	4,774

The chemical samples examined included 47 specimens of foods and 28 of drugs. Results of the food examinations were: satisfactory 22, misbranded 3, adulterated 12, insufficient information 10. The misbranded foods were two egg substitutes and one miscellaneous. Those found adulterated were: milk 3, vinegar 4, oysters 3, lemon extract 2. Reports on the drugs were: satisfactory 16, misbranded 4, adulterated 6, insufficient information 2. Those misbranded were: tincture of iodine 1, camphorated oil 1, bay rum 1, proprietaries 1. Adulterated products were three each of camphorated oil and miscellaneous drugs.

DIVISION OF SANITARY ENGINEERING.

Summary of Activities in November, 1918.

Investigations by representatives of the Division during the month dealt with two proposed and three existing sewerage and sewage disposal systems and with one proposed and eleven existing water supplies and water purification plants. The disposal of industrial wastes from the plant of the army chemical warfare service, Nela Park, Cleveland, was also the subject of an investigation.

Nine sets of plans were received during the month. Among these were plans for proposed sanitary sewers for Niles and for proposed new water supplies for Jewett and Mansfield.

Four samples of sand to be used as filtering material were approved. Five conferences were held.

Four certificates of approval of railroad water supplies were issued, the city water supplies of Mansfield and Conneaut being approved for railroad use. The Conneaut approval was due to the fact that since November 1 the purification plant in that city has been under the supervision of a technical operator, who makes regular analyses of the water. Approval of water from wells at Dillonvale and Phalanx was refused the New York Central Railroad.

DIVISION OF INDUSTRIAL HYGIENE.**Summary of Activities in November, 1918.**

The Division received, investigated and closed two industrial hygiene complaints during November. Eight requests for advice were answered and two such requests were pending at the end of the month. Reports on the coal mining industry in Ohio and Illinois were in progress. Twenty-one abstracts and one editorial were prepared for the *American Journal of Public Health*.

BUREAU OF PUBLICITY, DIVISION OF ADMINISTRATION.**Summary of Activities in November, 1918.**

Thirteen publicity stories were released during the month, twelve of which, issued through the weekly New Letter, reached a total of 1,403,483 printed copies (an average of 116,956 per story), appearing in 106 newspapers in 89 cities and villages in 60 counties.

A new edition of the Department's Soda Fountain Regulations (Administrative Bulletin 126B) was issued. In the hands of the printer were new editions of the three social hygiene pamphlets of the Department—Health Education Bulletin 124B, "Some Things a Young Man Should Know About Sex and Sex Diseases"; H. E. B 125B, "How Any Boy Can Develop His Health and Strength"; H. E. B. 126B, "Instructing Your Child in the Facts of Sex"—and a series of three educational circulars (E. C. 114, E. C. 115 and E. C. 116) on gonorrhea, syphilis and chancroids, respectively. Distribution of publications during the month totaled 11,730.

By elimination of duplications (addresses to which two or more copies were being sent monthly) from the OHIO PUBLIC HEALTH JOURNAL mailing list, a net saving of 408 copies a month was effected.

Seven volumes were added to the Department Library.

DIVISION OF PUBLIC HEALTH EDUCATION AND TUBERCULOSIS.**Summary of Activities in November, 1918.**

Miss Norah D. Abbe and Mrs. Jean K. Graham joined the Division's staff of public health nurses in November.

A new system for the following up by the Division of positive sputum reports made by the Division of Laboratories was installed. In accordance with orders from the Governor, instructions were issued and forms were supplied to the 155 local draft boards of the State for the reporting of notifiable disease cases disclosed by their physical examinations; it is believed that the closing of draft board work December 10 will interfere with the success of this arrangement.

At a meeting of commissioners from four counties of Proposed Hospital District No. 7, in New Philadelphia Nov. 15, no definite action was taken and another meeting was set for January 16, at St. Clairsville.

Notifications of tuberculosis hospital admissions and discharges received in November were as follows:

<i>Institution.</i>	<i>Patients Reported.</i>	<i>Ad- missions.</i>	<i>Dis- charges.</i>
Ohio State Sanatorium.....	66	26	46
Butler County Sanatorium.....	7	4	4
Franklin County Sanatorium.....	12	6	8
Lucas County Tuberculosis Hospital.....	46	28	28
Dayton District Hospital.....	6	4	3
Lima District Hospital.....	8	5	5
Springfield District Hospital.....	12	7	8
Springfield Lake Sanatorium.....	5	2	5
Mt. Logan Sanatorium.....	7	5	2
Rocky Glen Sanatorium.....	6	4	3
St. Anthony's Hosp.....	13	8	9
Total	188*	99	121

Total notifications 220: referred to local public health nurses 167, investigated by Division nurses 20, histories unobtainable 11, pending investigation at end of month 21.

Pending investigation November 1 from October 63: investigated by Division nurses 22, referred to local public health nurses 2, still pending at end of month 39.

Total pending investigation December 1, 60.

Changes in the local public health nursing service were as follows:

Miss Marie Mueller, Lima, resigned; succeeded by Miss Ethel Montague, assisted by Miss Marion Foote.

Miss Edith Heddric, Cuyahoga County, resigned; succeeded by Miss Blanche E. Sanderson.

Mrs. Rosezella Fischer, Springfield public schools, resigned; succeeded by Mrs. Margaret Grey.

Miss L. G. Walters, Norwalk public schools, resumed her duties.

Miss Celina Dunbar, Bucyrus, resigned to take charge of public health nursing in Chillicothe.

Work among discharged tuberculous soldiers during the month, with totals since the beginning of this activity, is summarized as follows:

	<i>November</i>	<i>Total.</i>
Notifications received	6	871
Cases referred to public health nurses.....	5	588
Reports received from public health nurses.....	29	323
Cases written directly.....	1	278
Replies received	5	79
Cases visited by Division nurses.....	23	192
Cases admitted to sanatoria.....	4	35
Cases not found.....	13	138
Cases not heard from.....	4	193

November reports of inflammation of the eyes of the newborn, with action taken, are summarized as follows:

Cases reported 105, classified as follows: (by race) white 92, colored 10, unknown 3; (by sex) male 60, female 40, unknown 5; (by source of report) reported by physicians 22, by midwives 30, by nurses 10, by physicians and nurses 2, by institutions 41. Cases investigated by Division 3, cases provided with nursing care 4.

*One patient spent time in two institutions during month of November.

HEALTH OFFICERS' ROUNDTABLE

Dr. Starr With U. S. P. H. S.

Dr. E. B. Starr, Springfield director of public health, is on a six month's leave of absence, beginning December 24, during which time he will be in the industrial hygiene division of the United States Public Health Service. Dr. C. G. Augustus, assistant director under Dr. Starr, is serving as acting director. Dr. Augustus has been in the Public Health Service since last August, but has been released to take Dr. Starr's place in Springfield. Dr. Starr is stationed in Washington. —

Promotion for Dr. Craven.

Dr. Oscar M. Craven, formerly district physician in the Cincinnati health department, has been promoted to chief medical inspector and assistant health officer, which position was held by Health Officer W. H. Peters before the latter's promotion to his present position as successor to the late Dr. J. H. Landis. —

Dairy Inspection Favored.

Health officers of the United States are almost unanimously in favor of farm inspection as a method of insuring safe milk supplies, according to a vote taken during the summer of 1918 by the Bureau of Animal Industry, United States Department of Agriculture, on the question, "Do you consider farm inspection important enough to be continued?" Of the 323 health officers who returned de-

cided answers, 309 said, "Yes," and 14 said, "No."

"This does not imply," comments the Bureau, "that inspection should be at the expense of bacteriological and chemical control; but that there should be co-ordination between laboratory control and dairy farm inspection. Which is the more important depends entirely upon local conditions.

"Dairy inspection is of greatest importance in the smaller cities where the bulk of the milk is sold in the raw state. The milk supply might not be large enough to justify compulsory pasteurization; and from a public health standpoint, every safeguard must be thrown about its production and handling. Dairy inspection is especially important in communities where milk control activities are being inaugurated, since the producer must be taught how to produce, handle, and transport milk in a cleanly, safe manner.

"To be satisfactory, the inspection of dairy farms must be carried on by competent inspectors. They should have a practical, sympathetic knowledge of dairy farm conditions; they should know the essential features in the production and handling of safe and clean milk; and they must be able to distinguish between those factors which make for public health and those having relation to cleanliness or economy of production and handling of the product.

"Dairy inspection has broader meaning than simply looking into

the dairy barn and reporting on light, ventilation, and the smoothness of walls and ceilings. Dairy inspection means first the coming into personal contact with the producer, and the establishing of a personal relation between the control official and the dairyman. It means education instead of prose-

cution in the vast majority of cases. When dairy inspectors can prove to the dairyman that they have a detailed knowledge of milk production and handling, and when they can approach the problems of the dairymen with sympathetic interest, the prime feature of milk control work will be accomplished."

PUBLIC HEALTH NOTES FROM OVER THE STATE

The Columbus board of education is carrying health instruction for the correction of defects in children into the homes by a series of leaflets on various conditions which require correction. When a defect is discovered in a child, the child is given a leaflet to be taken to the parents, telling the nature of the trouble and the course which should be followed to have it remedied.

* * *

Dr. Fletcher Langdon has been appointed bacteriologist of the Cincinnati health department. He has been pathologist in charge of the clinical laboratory of the Ophthalmic Hospital, Cincinnati.

* * *

Development of a new well water supply for the city of Canton has been proposed in a report of the city water commission. The projected improvement would cost \$3,500,000 and would be adequate to supply the city's needs for the next twenty-five years, it is estimated.

Sanitary Control of Milk

Health departments which are at all active devote a great deal of time to the sanitary control of the

production and handling of milk. This is entirely proper, as a safe and clean milk supply undoubtedly means fewer epidemics and a lower death rate.

It is important at this time that there be no let down in the work of the health officer to provide a safe and clean milk supply. There should be special emphasis laid on the factors of greatest importance in providing a milk of this kind. On the other hand minor factors which have very little or no effect on the production of safe and clean milk may be minimized. The most important factors are: healthy cows, healthy milkers and milk handlers, cooling milk, sterilization of utensils, washing flanks and udders, small-top pails, and clean, dry hands.

An effort is being made to establish uniformity of rules for safe and clean milk production. This is important both from an economic and a sanitary standpoint, especially so in the thickly settled regions where multiplicity of inspection exists. In all meetings which health officers and inspectors attend, this is a live subject.—*Public Health*, Michigan State Board of Health.

I 131 B4
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No. 1

THE OHIO PUBLIC HEALTH JOURNAL

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THE STATE DEPARTMENT OF HEALTH

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**(Some Public Health Deductions Based on
Draft Rejection Figures — Caring for Ohio
Soldiers Discharged Because of Tuber-
culosis — Tuberculosis Hospitals as a War
Measure — Scorecard Systems in Public
Health Work — Rabies — Why Smallpox is
Spreading — Scarlet Fever Particularly
Menacing to Children From 2 to 10 Years
Old — All States Urged to Join in Fight-
ing Venereal Diseases.**

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Offices and Laboratories of the State Health Department are located on the Ohio State University Campus. The offices are in Page Hall; the Laboratories are in the Hygienic Laboratories' Building.

DISEASES NOTIFIABLE IN OHIO.

Report cases or suspected cases of the following diseases to the health officer having jurisdiction.

NOTIFIABLE INFECTIOUS DISEASES OF COMMON OCCURRENCE.

Chickenpox.	Poliomyelitis, acute infectious, (infantile Paralysis).
Diphtheria and Membranous Croup.	Scarlet Fever.
Gonorrhea.	Smallpox.
Measles.	Syphilis.
Measles, German.	Trachoma.
Meningitis, Epidemic Cerebrospinal.	Tuberculosis, all forms, the organ or part affected to be specified.
Mumps.	Typhoid Fever.
Ophthalmia Neonatorum.	Whooping Cough.
Pneumonia, acute.	

OTHER NOTIFIABLE INFECTIOUS DISEASES.

Actinomycosis.	Leprosy.
Anthrax, human.	Malaria.
Cholera, Asiatic, (cholera nostras when Asiatic cholera is present or threatened).	Paragonimiasis.
Continued fever lasting seven days.	Paratyphoid Fever.
Dengue.	Plague.
Dysentery:	Rabies, human.
a. Amebic.	Rocky Mountain spotted, or tick fever.
b. Bacillary.	Septic sore throat.
Favus.	Tetanus.
Glanders, human.	Trichinosis.
Hookworm Disease.	Typhus Fever.
	Yellow Fever.

OCCUPATIONAL DISEASES AND DISABILITIES.

Anilin Poisoning.	Dinitrobenzine Poisoning.
Arsenic Poisoning.	Lead Poisoning.
Benzine (Gasoline) Poisoning.	Mercury Poisoning.
Benzol Poisoning.	Naphtha Poisoning.
Bisulphide of Carbon Poisoning.	Natural Gas Poisoning.
Brass Poisoning.	Phosphorus Poisoning.
Carbon Monoxide Poisoning.	Turpentine Poisoning.
Compressed-air Illness.	Wood Alcohol Poisoning.

Any other disease or disability contracted as a result of the nature of the person's employment.

DISEASES OF UNKNOWN ORIGIN.

Cancer.	Pellagra.
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A PUBLIC HEALTH PROGRAM which attempts to fight venereal diseases without suppressing prostitution is as illogical as one which would battle smallpox without isolating victims, as illogical as one which would try to stamp out typhoid fever without providing pure water and sanitary sewers, as illogical as one which would seek to wipe out blindness without treating the eyes of newborn babies.

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No. 2



THE OHIO PUBLIC HEALTH JOURNAL

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COLUMBUS, OHIO

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U The Smallpox Situation and Ohio's Local
Health Organization — Ohio's Part in the
National Baby-Saving Campaign for the
Second Year of the War — Save Fuel and
Save Health — Scope of Ohio's Health
Insurance Investigation Outlined — Small-
pox Warning Repeated Once More —
Tell the Truth About Disease Conditions

Index to Volume VIII (1917)
is included in this number

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DISEASES OF UNKNOWN ORIGIN.

Cancer.	Pellagra.
---------	-----------

THE BIRTHDAY'S INJURY!

TO ME, the tragedy of this earth is a diseased child. The natural inheritance of a child is joy and strength and growth and freedom. He is robbed of it all by disease. To me, the most tragic indictment of civilization is a diseased child—civilization that stands still and lets a little child through ignorance of his parent or teacher or any other cause, be robbed of this divine inheritance of the joy and happiness of childhood—of the strength and growth of childhood! Medical inspection is intended to prevent that tragedy—to help remove that terrible indictment against our Christian civilization. The physician and the teacher are necessarily the main agencies in this work. Medical inspection, then, opens a new door of larger service to childhood, to civilization and posterity.—*Dr. J. Y. Joyner, in an address before the State Medical Inspectors, Raleigh, N. C., October 11, 1917.*

Vol. IX

MARCH, 1918.

No. 3



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COLUMBUS, OHIO

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CHILD HYGIENE NUMBER, Opening the Children's Year Campaign: State Program for Child Welfare—County and City Quotas for Child-Saving Campaign—The Organization of a Municipal Bureau of Child Hygiene—Child Hygiene Activities of City Health Departments of Ohio—Child Welfare and the Public Health Nurse.

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Gonorrhea.	Smallpox.
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Measles, German.	Trachoma.
Meningitis, Epidemic Cerebrospinal.	Tuberculosis, all forms, the organ or part affected to be specified.
Mumps.	Typhoid Fever.
Ophthalmia Neonatorum.	Whooping Cough.
Pneumonia, acute.	

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DISEASES OF UNKNOWN ORIGIN.

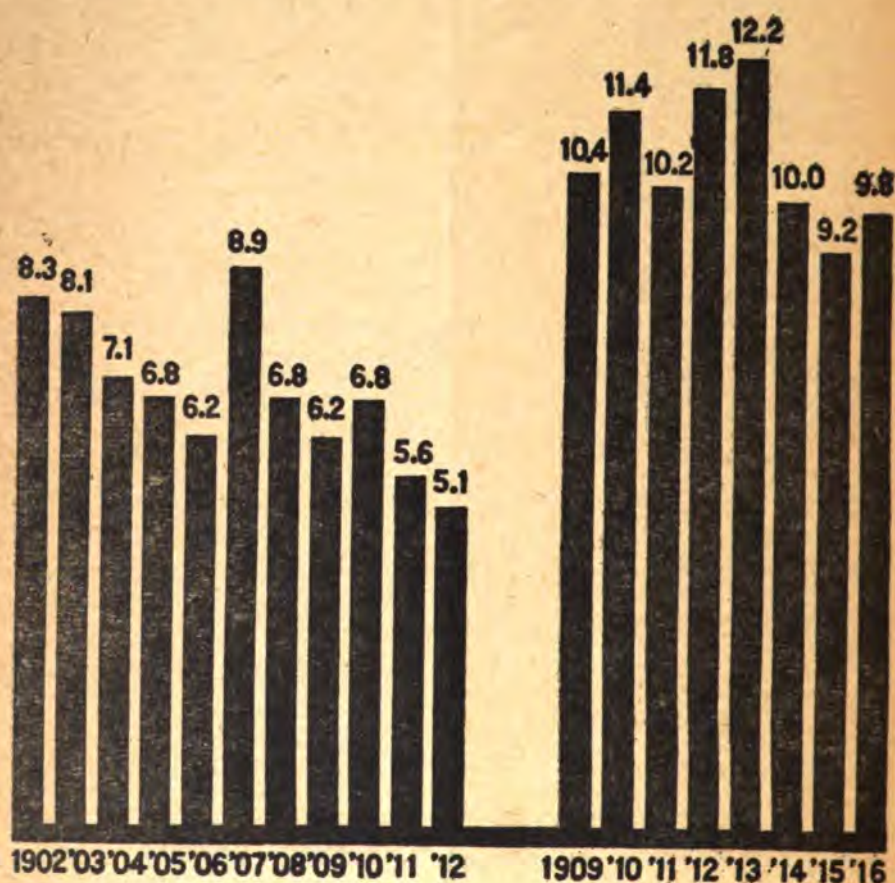
Cancer.

Pellagra.

Percentages of Babies Born Who Died Before Reaching Their First Birthday Anniversary

NEW ZEALAND -

OHIO -



**Why Shouldn't OHIO Enter the Race
with New Zealand?**

Vol. IX

APRIL, 1918.

No. 4 ★



THE OHIO PUBLIC HEALTH JOURNAL

ISSUED MONTHLY BY

THE STATE DEPARTMENT OF HEALTH

COLUMBUS, OHIO

Entered as second-class matter at the Postoffice at Columbus, Ohio.

Public Health Administration in the Camp Sherman Zone—Cause and Prevention of Furunculosis Among Machinists—How Ohio is Meeting the Venereal Disease Problem—Need for Maternity Hospitals in Rural Districts—Governor Cox Urges Support for the Child Conservation Movement—Deaths of Ohio Babies in January, by Counties and Cities.

STATE DEPARTMENT OF HEALTH.

PUBLIC HEALTH COUNCIL.

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Cancer.	Pellagra.
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The Public Health and the Public School

**What the Ohio State Department of
Health Demands for the School
Children of Ohio:**

I. SANITARY SCHOOLS—Every School With :

A Sanitary Privy
A Safe Water Supply
Proper Ventilation
Correct Lighting
Suitable Furniture
Dustless Air
Individual Drinking Cups

II. HEALTHY CHILDREN —

Systematic Medical Inspection
Provision for Correction of
Defects
Control of Infectious Diseases

III. PROPER HEALTH EDUCATION —

Good Textbooks on Health
Systematic Teaching of Hy-
giene and Sanitation

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Vol. IX

MAY, 1918.



THE OHIO PUBLIC HEALTH JOURNAL

ISSUED MONTHLY BY

THE STATE DEPARTMENT OF HEALTH

COLUMBUS, OHIO

Entered as second-class matter at the Postoffice at Columbus, Ohio.

TYPHOID FEVER NUMBER: Statistical Observations on Typhoid in Ohio—Typhoid Prevention on the Farm and in the Small Town—Water Purification as a Factor in the Elimination of Urban Typhoid Fever—The Health Officer's Responsibility in Typhoid Prevention—The Laboratory and Typhoid Fever—Typhoid Records of Ohio's Large Cities in 1917—Typhoid Fever as a Contagious Disease

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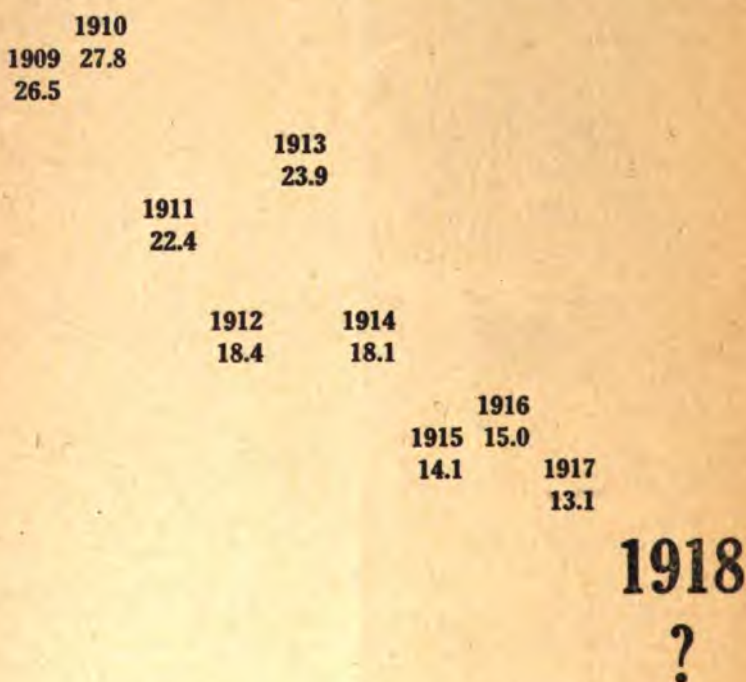
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Cancer.

Pellagra.

Ohio's Typhoid Death Rate Has Gradually Declined in the Past Nine Years



What Will 1918 Show?

I 131 18A

Vol. IX

JUNE, 1918.



No. 6

THE OHIO PUBLIC HEALTH JOURNAL

ISSUED MONTHLY BY

THE STATE DEPARTMENT OF HEALTH

COLUMBUS, OHIO

Entered as second-class matter at the Postoffice at Columbus, Ohio, under the Act of August 24, 1912.

**Ohio's Heavy Investment in Smallpox—
Physical Education in Ohio Schools—
New Regulations of the State Department
of Health for the Control of Venereal
Diseases and of Whooping Cough—
Amended Regulations Governing the Ship-
ment of Bodies—Twenty Cases of Ty-
phoid Result from Pollution of One Well
—Baby-Saving Results for First Four
Months of Year**

STATE DEPARTMENT OF HEALTH. PUBLIC HEALTH COUNCIL.

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Pellagra.

To Protect the Army Training Camps Against Epidemics

The Federal authorities urge that the following procedure be followed by physicians and local health officials when a soldier is found to have been exposed to a communicable disease:

The physician should report the case immediately to the local health officer. If he can not reach this official at once, he should report the case (by telephone or telegraph if necessary) to the State Department of Health.

The local health official, immediately upon receiving such a report, should transmit it (by telephone or telegraph if necessary) to the senior medical officer of the camp or post endangered by the soldier's exposure. He should send a duplicate report to the State Department of Health.

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I 131 39
Vol. IX

JULY, 1918

No. 7



THE OHIO PUBLIC HEALTH JOURNAL

ISSUED MONTHLY BY

THE STATE DEPARTMENT OF HEALTH

COLUMBUS, OHIO

Entered as second-class matter at the Postoffice at Columbus, Ohio, under the Act of August 24, 1912. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 10, 1918.

VENEREAL DISEASE NUMBER:
Ohio's Venereal Disease Program—Venereal Disease Prevalence in Ohio—Relation of the Venereal Disease Campaign to Child Hygiene—How Cities Are Aiding in the Movement—The Laboratory and Venereal Disease—Responsibilities of the Health Officer Under the New Regulations

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Gonorrhea.	Smallpox.
Measles.	Syphilis.
Measles, German.	Trachoma.
Meningitis, Epidemic Cerebrospinal.	Tuberculosis, all forms, the organ or part affected to be specified.
Mumps.	Typhoid Fever.
Ophthalmia Neonatorum.	Whooping Cough.
Pneumonia, acute.	

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Continued fever lasting seven days.	Paratyphoid Fever.
Dysentery.	Plague.
Dysentery:	Rabies, human.
a. Amebic.	Rocky Mountain spotted, or tick fever.
b. Bacillary.	Septic sore throat.
Favus.	Tetanus.
Glanders, human.	Trichinosis.
Hookworm Disease.	Typhus Fever.
	Yellow Fever.

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Anilin Poisoning.	Dinitrobenzene Poisoning.
Arsenic Poisoning.	Lead Poisoning.
Benzine (Gasoline) Poisoning.	Mercury Poisoning.
Benzol Poisoning.	Naphtha Poisoning.
Bisulphide of Carbon Poisoning.	Natural Gas Poisoning.
Brass Poisoning.	Phosphorus Poisoning.
Carbon Monoxide Poisoning.	Turpentine Poisoning.
Compressed-air Illness.	Wood Alcohol Poisoning.

Any other disease or disability contracted as a result of the nature of the person's employment.

DISEASES OF UNKNOWN ORIGIN.

Cancer.	Pellagra.
---------	-----------

—“WORK OR FIGHT!”—

is the Government's order to patriotic Americans. The venereally diseased man can do neither.

The Public Health Worker's Wartime Duty

is to keep the efficiency of the population up its highest pitch—to

Keep the Country's Citizenship
FIT TO WORK OR FIGHT

✓ I 131
B4
Vol. IX

AUGUST, 1918.

No. 8



THE OHIO PUBLIC HEALTH JOURNAL

ISSUED MONTHLY BY

THE STATE DEPARTMENT OF HEALTH

COLUMBUS, OHIO

Entered as second-class matter at the Postoffice at Columbus, Ohio, under the Act of August 24, 1912. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized July 10, 1918.

◀ Ohio's Tuberculosis Hospital Equipment—
First Announcement of 1917 Mortality
Figures by Counties—Baby Saving in Ohio
During Earlier Half of 1918—Statistical
Study of One Year's Reports of Inflamma-
tion of the Eyes of the New-born—Another
Rural Typhoid Epidemic Attributed to Bad
Sanitary Conditions

STATE DEPARTMENT OF HEALTH.

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Cancer.	Pellagra.
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HOT WEATHER ENEMIES:

Typhoid Fever
Summer Diarrhea

FIGHT TYPHOID

by protecting food and water from contamination, by enforcing proper sanitary regulations, by preventing flies, by careful supervision of existing cases and by anti-typhoid inoculation,

FIGHT SUMMER DIARRHEA

by provision of pure milk and by instructing mothers in proper methods of caring for babies in hot weather.

Vol. IX

SEPT.-OCT., 1918.

No. 9-10

THE OHIO PUBLIC HEALTH JOURNAL

ISSUED MONTHLY BY

THE STATE DEPARTMENT OF HEALTH

COLUMBUS, OHIO

Entered as second-class matter at the Postoffice at Columbus, Ohio, under the Act of August 24, 1912. Acceptance for mailing at special rate of postage provided for in Section 1108, Act of October 3, 1917, authorized July 10, 1918.

Influenza Instructions and Educational Material — Ohio Birth and Death Statistics for 1917 — The Mahoning River as a Sanitary Problem — Death of Dr. J. H. Landis, Cincinnati Health Officer — A Recent Word From Dr. Rufus Cole on Pneumonia Prevention — Summary of Baby-Saving Results, January to July — Statistics on Reports of Inflammation of Eyes of Newborn.

STATE DEPARTMENT OF HEALTH.

Public Health Council.

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DISEASES OF UNKNOWN ORIGIN.

Cancer.

Pellagra.

INFLUENZA

Is a Crowd Disease

Its Germ Soon Dies

when exposed to

Sunlight and Fresh Air

Therefore

To Avoid Influenza

STAY OUT OF CROWDS

GET PLENTY OF
FRESH AIR

Vol. IX

NOVEMBER, 1918.



No. 11

THE OHIO PUBLIC HEALTH JOURNAL

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- C** Controlling the Influenza Epidemic in Ohio
— The Bacteriology of the Pneumonias —
Experiments in Air-Conditioning the Home
— Labor Takes Stand for Health — Social
Hygiene and the War — Unsafe Water
Supply Proves Costly — Government Fi-
nances Venereal Disease Work in Ohio

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Cancer.	Pellagra.
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HOW TWO NATIONS ARE CARING FOR THEIR CHILDREN'S HEALTH

JAPAN	UNITED STATES
(Population 70,000,000)	(Population 110,000,000)
has	has
16,411	1,500
School Physicians	School Physicians

In each country approximately 70 percent of the children have remediable physical defects.

With four-fifths of her schools medically supervised, Japan is repairing these defects before it is too late to do so.

With scarcely any of her schools medically supervised, the United States is neglecting most of these defects until too late.

If this situation continues, in which country will the coming generation be better fitted for the duties of citizenship?

*No index
Bound table of contents*

Vol. IX

DECEMBER, 1918.

No. 12

THE OHIO PUBLIC HEALTH JOURNAL



ISSUED MONTHLY BY

THE STATE DEPARTMENT OF HEALTH

COLUMBUS, OHIO

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Working Program for the Control of Influenza—Venereal Disease Work of the State Department of Health—Influenza Increases Baby Mortality—Bishop Lawrence on Venereal Diseases—Social Hygiene and the War

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R. V. STORY, M. A.	<i>Chief Bacteriologist</i>
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ETHEL D. YOUNG, A. B.	<i>Statistician</i>

Division of Child Hygiene.

	<i>Director</i>
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Division of Plumbing Inspection.

WILLIAM F. DUFFY.	<i>Director and State Inspector</i>
ADEN E. SMITH.	<i>Deputy State Inspector</i>
HIRAM LEWIS	<i>Deputy State Inspector</i>

Offices and Laboratories of the State Health Department are located on the Ohio State University Campus. The offices are in Page Hall; the Laboratories are in the Hygienic Laboratories' Building.

DISEASES NOTIFIABLE IN OHIO.

Report cases or suspected cases of the following diseases to the health officer having jurisdiction.

NOTIFIABLE INFECTIOUS DISEASES OF COMMON OCCURRENCE.

Chancroid.	Polomyelitis, acute infectious, (Infantile Paralysis).
Chickenpox.	Scarlet Fever.
Diphtheria and Membranous Croup.	Smallpox.
Gonorrhea.	Syphilis.
Measles.	Trachoma.
Measles, German.	Tuberculosis, all forms, the organ or part affected to be specified.
Meningitis, Epidemic Cerebrospinal.	Typhoid Fever.
Mumps.	Whooping Cough.
Ophthalmia Neonatorum.	
Pneumonia, acute.	

OTHER NOTIFIABLE INFECTIOUS DISEASES.

Actinomycosis.	Leprosy.
Anthrax, human.	Malaria.
Cholera, Asiatic, (cholera nostras when Asiatic cholera is present or threatened).	Paragonimiasis.
Continued fever lasting seven days.	Paratyphoid Fever.
Dengue.	Plague.
Dysentery:	Rabies, human.
a. Amebic.	Rocky Mountain spotted, or tick fever.
b. Bacillary.	Septic sore throat.
Favus.	Tetanus.
Glanders, human.	Trichinosis.
Hookworm Disease.	Typhus Fever.
	Yellow Fever.

OCCUPATIONAL DISEASES AND DISABILITIES.

Anilin Poisoning.	Dinitrobenzine Poisoning.
Arsenic Poisoning.	Lead Poisoning.
Benzine (Gasoline) Poisoning.	Mercury Poisoning.
Benzol Poisoning.	Naphtha Poisoning.
Bisulphide of Carbon Poisoning.	Natural Gas Poisoning.
Brass Poisoning.	Phosphorus Poisoning.
Carbon Monoxide Poisoning.	Turpentine Poisoning.
Compressed-air Illness.	Wood Alcohol Poisoning.

Any other disease or disability contracted as a result of the nature of the person's employment.

DISEASES OF UNKNOWN ORIGIN.

Cancer.

Pellagra.

Organization And Lack of It

SUPPOSE each regiment of our armies in France had been an independent unit, with no brigade, divisional, corps or field army organization and with little more than advisory power resting in General Pershing's hands.

SUPPOSE most of the colonels commanding these regiments had been men just drawn from civil life, possessing no knowledge of military science.

WOULD WE HAVE WON THE WAR?

Ohio is attempting to fight disease and ill health with such an organization: we have nearly 2,200 independent health districts, subject to little control by the State and employing, in most cases, wholly untrained health officers.

**CAN WE WIN OUR FIGHT UNDER SUCH
CONDITIONS?**



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